UNITED STATES DEPARTMENT OF INTERIOR

GEOLOGICAL SURVEY

Mineralogic and Grade-Tonnage Information on Low-Sulfide Au-Quartz Veins

by

James D. Bliss[1] and Gail M. Jones[1]

Open-File Report

88-229

This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature.

1. U.S. Geological Survey, Menlo Park, California.

TABLE OF CONTENTS

INTRODUCTION

Data on grade, tonnages and mineralogy of deposits classifed as low-sulfide Au-quartz veins were compiled for deposits found throughout the world. Tabulated here are data on sulfide and nonsulfide mineralogy, gold and silver grades and deposit tonnage. A discussion of ore mineralogy of these deposits makes up the bulk of the text, and is partly summarized in tables 1 and 2. Data on 357 deposits, including deposit name, country, local geographical area, mineralogy, gold and silver grades, tonnage, and references are given in table 3. Table 4, part A, gives an alphabetic list of deposit names and lists the mines and properties aggregated to represent that deposit. Table 4, part B, gives an alphabetic list of mine and properties followed by the deposit name.

CHARACTERISTICS OF DEPOSITS

Deposits included in this tabulation have characteristics of low-sulfide Au-quartz veins as described in Berger (1986). These deposits are mesothermal and occur as fault or fissure fillings, i.e., deposits in the Sierra Nevada, California (Clark, 1970); Klamath Mountains, California-Oregon (Hotz, 1971); and Bridge River Camp, British Columbia, Canada (Barr, 1980). They may also occur as saddle reefs, i.e., deposits hosted by the Meguma Group, Nova Scotia, Canada; and Ballarat, Victoria, Australia (Barr, 1980). Combinations of the two depositional styles are also observed, i.e., Cariboo, British Columbia, Canada; and Ballarat, Victoria, Australia (Barr, 1980)). These deposits are primarily worked for gold. Silver is a minor byproduct; about 14 percent of the deposits described here have reported silver grades.

Sulfides commonly make up less than 5 percent of the ore. Sulfides likely to be present include pyrite, galena, sphalerite, and arsenopyrite (Berger, 1986). These minerals plus others are evaluated in detail. Alteration minerals associated with quartz in these deposits include carbonates (ankerite, calcite, dolomite, and siderite), albite, biotite, and chlorite among others (Berger, 1986).

Low-sulfide Au-quartz vein deposits are commonly found in greenstone belts. Rock types hosting deposits include greywacke, shale, quartzite, and volcanics or volcaniclastic rocks. Continental margin mobile belts appear to be a favorable tectonic environment (Berger, 1986). Disseminated ore is associated with some veins in the Sierra Nevada and was locally worked with the vein deposits (Clark, 1969); infrequently, the disseminated ore was a major source of gold.

DEFINITION OF DEPOSIT

Definition of deposits as geologic entities, as opposed to mines, is difficult because of the erratic occurrence of veins and because most of these deposits were mined in the past by a number of operators. In this study, mines within 1 mile (1.6 km) of each other were aggregated together to form "deposits." Names of deposits used in Table 1 may represent a major mine, district name, or local town name or other prominent feature in or adjacent to the deposit. Deposits can extend for many kilometers as mines will chain together along vein systems. Deposits may be many square kilometers in area representing many nearby gold lodes.

GRADE AND TONNAGE MODEL

Reliable production data for low sulfide Au-quartz vein deposits can be difficult to obtain and may be incomplete. Data on reserves are rare due, in part, to the eratic nature of veins. Available data are commonly of poor quality or estimated. Some grades are based on recovered gold which may represent only a portion of the total gold contained in the ore. Past production is commonly reported as the currency value of gold or gold plus silver. Difficulties occur in converting the currency value to ounces of gold if production includes periods when gold was $20.67 per troy ounce and when gold was $35.00 per troy ounce. In some cases, silver grade was calculated from gold fineness. The assumption that much of the balance of the material amalgamated with gold in the ore is silver may or may not be appropriate. Data are almost always for past production; only a few deposits include in situ reserves. Estimates of production is the rule, not the exception. Additional uncertainty comes in the process of aggregating mines into deposits. To develop a valid grade and tonnage model as given in Bliss (1986) for this deposit type, data for a large number of deposits were collected. While individual values may be of poor quality, statistical parameters such as mean and variance can be determined quite accurately given a large sample. Gold and silver grades (figures, 1a and 1b) and tonnage (fig. 2) were based on data from 313 deposits (Bliss, 1986). Care should be taken if the use of these grade and tonnage values is for other than grade and tonnage modeling.

Elipses containing 45 percent of the deposits, plotted on gold grade-tonnage and gold grade-silver grade diagrams (figs. 3, 4) show the relationship of the low-sulfide Au-quartz veins deposit-type to Homestake Au, Creee epithermal veins, and a composited epithermal veins deposit type (Costock epithermal veins, Sado epithermal veins, and epithermal quartz alunite Au). Compared to other precious-metal deposits types, low-sulfide Au-quartz veins have low ore tonnage, high gold grade and low silver grade. The silver data are based on relatively few deposits (n=36). Better data may move the elipse for low-sulfide Au-quartz deposits along the silver abcissa in figure 4, but the relations between deposit-type elipses would probably remain the same.

ORE MINERALS

First, a brief review of reporting on common sulfides in the literature about deposits classified as low-sulfide Au-quartz veins (also see "Characteristic of Deposits").

Historical Reporting on Major Sulfides

Knopf (1929) observed that pyrite is the most abundant sulfide in mines in the Mother Lode system, California. Junner (1921) made the same observation in gold-quartz mines in Victoria, Australia, and Malcom (1912) in mines in the Meguma Group, Nova Scotia.

Arsenopyrite was considered to be second in abundance in the Mother Lode (Knopf, 1929) and in the Victoria, Australia properties (Junner, 1921).

Pyrrhotite appears to be been reported in just a single mine in the East Belt of the Sierra Nevada foothills (Knopf, 1929). Newhouse (1936) reports that pyrrhotite occurs in 86 percent of the districts in Nova Scotia.

Chalcopyrite was "very minor" in the Mother Lode (Knopf, 1929); it was widespread in Victoria (Junner, 1921). Hotz (1971) reports that chalcopyrite was uncommon in deposits of this type in the Klamath Mountains, California-Oregon. Malcolm (1912) reports that it was "sparingly distributed through some veins" in the Meguma Group deposits, Nova Scotia.

Galena is listed third by Junner (1921) in the Victoria deposits. While described as occurring "sparingly" in the Mother Lode system (Knopf, 1929) and "subordinate" in Nova Scotia (Malcolm, 1912), galena was widely considered by mine operators to be correlated with better gold grades in both areas.

Sphalerite was identified as "subordinate" by Hotz (1971) and as a "common minor sulfide" but not in gray ore (ore-grade altered wall rock adjacent to veins) of the Mother Lode system (Knopf, 1929).

A number of sulfides were identified but apparently not reported to be widespread. Junner (1921) lists stibnite as fifth among sulfides found in the Au-quartz veins of Victoria. Tetrahedrite was described in a carbonate-quartz veinlet in one mine in the Mother Lode system (Knopf, 1929).

Method of Evaluation of Ore Mineralogy

Metallic and nonmetallic minerals are evaluated in three ways: (1) by the frequency of occurrence, (2) by order of abundance in deposits, and (3) by mineral groupings or assemblages. Frequency of occurrence is concerned with the number of deposits containing a specific sulfide without regard to quantity. Abundance or order of abundance is concerned with the relative quantity of sulfides (usually volumetrically but may be by weight, typically criteria unreported) and the ranking of sulfides, i.e., which sulfide is most abundant, second abundant, etc., in a specific deposit. In the case of sulfides which usually make up no more than 5 percent of the ore for this deposit type, reporting of minerals in mines is commonly in order of decreasing abundance. This is the assumption where minerals are listed in nonalphabetic order. Where additional discussion is given, this assumption is commonly confirmed. Summary statements found in the literature for an area or district do not differentiate between mineral abundance or frequency of occurrence. Evaluation of mineral occurrence in low-sulfide Au-quartz veins may be compromised by a variety of problems. Thess include:

1) minerals incorrectly identified and reported,
2) minerals determined from unrepresentative samples,
3) minerals not reported or reported in a sequence other than that which reflects relative mineral abundance,
4) deposits misclassified as belonging to this deposit type, and
5) uneven reporting quality on mineralogy from area to the next.

Deposits with unique minerals, although they may represent unusual conditions of deposit formation, are particularly suspect as having been incorrectly included in this deposit type. These minerals may also be present in members of a deposit type not currently recognized but mistakenly included with low-sulfide Au-quartz veins. This deposit type (low-sulfide Au-quartz) may consist of several subtypes.

Reporting on nonmetallics is less consistent and complete; as a result, their evaluation is abbreviated. In some cases due to inexact reporting, alteration and gangue minerals associated with the deposit have been included with the nonmetallic minerals. In other cases, minerals may have been included that are part of the mineralogy of the hosting country rock when country rock becomes part of the gangue material.

In order to better ascertain the frequency, abundance, and groupings found among sulfides minerals, three subsets of data were used. Subset one includes 148 deposits in which two or more sulfides (plus scheelite)[1] were reported. Analyses of this subset tracked data on pyrite, arsenopyrite, galena, chalcopyrite, sphalerite, pyrrhotite, stibnite, galena, calcopyrite, tetrahedrite, and scheelite. The type of information collected: (1) the number of deposits each sulfide was reported, (2) the rank each sulfide had among the first six or less sulfides reported.

Subset two included 88 deposits with four or more sulfides. Subset three included 129 deposits with at least three sulfides. All these subsets presumeably represent deposits with better reporting (or so we hope) and may be more representative of low-sulfide Au-quartz veins in general. These subsets as well as the full data set are utilized in the analyses which follows.

Fequency, Abundance and Groupings of Sulfides

The number of metallic sulfides reported for individual deposits in our data vary from one to nine. Over 30 percent of the deposits have no reported information on sulfides. Just over 30 deposits have only one sulfide reported. The odds are four to one that that sulfide will be pyrite. Arsenopyrite was so reported in four cases and galena in one.

Among the sulfides considered and reported, pyrite was the most frequently identified. In subset one, 89 percent of the deposits report pyrite (Table 1); the percentage was also found for subset two. Three sulfides--galena, arsenopyrite, and chalcopyrite--are reported in over half the deposits considered in subset one. The least frequently reported sulfides are sphalerite (39 percent), pyrrhotite (22 percent), stibnite (11 percent), tetrahedrite (9 percent), and scheelite (7 percent). Due to greater detail in reporting, these sulfides were reported at a slightly higher rate in subset two (see Table 1, footnote 2). Most sulfides were reported with an additional 10 percent greater frequency; the exceptions are galena and sphalerite. Galena is report with almost no change in frequency. Sphalerite, however, shifts from being reported in 39 percent of the deposits in subset one to 70 percent of the deposits in subset two. This places sphalerite among the three most commonly reported sulfides for the deposit type. Why the shift occurs in reported frequency is unclear but it does suggest that it is likely that sphalerite is far more widespread than reported, possibly at low abundances. In summary, the fequency rank of sulfide reporting in low-sulfide Au-quartz veins in subset one and two are as follows:

1. Subsequent use of the term "sulfides" or "sulfide" will also include scheelite.

Frequency	Subset One (N=148)	Subset Two (N=88)
1.	pyrite	pyrite
2.	galena	galena,sphalerite
3.	arsenopyrite	arsenopyrite
4.	chalcopyrite	chalcopyrite
5.	sphalerite	pyrrhotite
6.	pyrrhotite	tetrahedite, stibnite
7.	tetrahedrite	----------
8.	scheelite	----------

Other sulfides and a few other minerals are reported infrequently. Quite a few are reported just once. In the full data set, the following minerals were identified: molybdenite (in 3 percent of the deposits therein); various tellurides including petzite, hessite, and sylvanite (2 to 3 percent); cobalt-bearing minerals such as erythrite and danaite (cobaltoan arsenopyrite); native bismuth and bismuth-bearing minerals such as cosalite, guanajuantite, maldonite and tetradymite (2 percent); nickel sulfides such as millerite and niccolite; arsenic-bearing sulfides including realgar, orpiment and lollingite; and micellaneous copper sulfides including covellite and bornite. Other rarely reported minerals are sulfosalts (except tetrahedrite). Theses include jamesonite, bismuthinite, boulangerite, bournonite pyrargyrite, and proustite. Infrequently reported oxides include rutile, cassiterite and uraninite.

Sulfides found in deposits may be found in small amounts or in large amounts. The order in which sulfides are reported give a crude measure of abundance, i.e., more abundant sulfides are generally given first in lists of sulfides. In subset one, the rank of the more commonly found sulfides in this deposit type were tabulated and median ranks given (table 1). For example, for the 89 percent of the deposits in which it is reported, pyrite has a median rank of one. Also given in Table 1 is a detail breakdown of the percentage of times pyrite as well as other sulfides considered were ranked one, two, etc. For example, pyrite was ranked two in 18 percent of the deposits it occurs. While pyrite exhibits a systematic decline in percentage of deposits with decreasing rank, other sulfides have different patterns (table 1; fig. 5). To better illustrate these patterns of rank, a histrogram of each of the sulfides was prepared (figs. 5-12). In all the figures, pyrite is also given. Keep in mind that these figures are useful to compare distribution of ranks; not the direct interrelationship of minerals shown.

Sulfides with a median rank of two include galena, arsenopyrite, and pyrrhotite (table 1). While galena and arsenopyrite are reported in over half the deposits, pyrrhotite is reported in just 22 percent. When galena occurs, the single most likely rank it will have is two; 43 percent of deposits have it so reported. Galena at other ranks (i.e., one, two, three, four, five, and six) all are as nearly equally likely to occur--about one chance out of ten for any given rank (fig. 5). Arsenopyrite distribution of ranks is asymetrical (fig. 6); 72 percent of the deposits with arsenopyrite are ranked either one or two for deposits containing arsenopyrite. Pyrrhotite distribution of ranks is somewhat symetrical about rank two; 93 percent of the deposits with pyrrhotite are ranked one, two, or three. It is an infrequently reported mineral but if it is present, likely to be abundant (fig. 7).

Three sulfides have a median rank of three: chalcopyrite, sphalerite, and tetrahedrite. While chalcopyrite is reported in over half the deposits, tetrahedrite is rare, reported in just 13 of the 148 deposits under consideration. Sphalerite is intermediate to these two at 39 percent[2]. Chalcopyrite has a symetrical distribution about rank three (fig. 8); sphalerite also has a somewhat symetrical distributrion but has a large portion of deposits in a single rank class (over 40 percent of the deposits are in rank class three (fig. 9)). The pattern for tetrahedrite, based on a very limited number of reporting deposits, is essentially equally divided among ranks two, three, and four (fig. 10).

Two sulfides have a median rank of four: stibnite and scheelite. Both are rarely found, 11 percent of deposits for stibnite and 7.4 percent of deposits for scheelite. The sample size are too small to make meanful interpretations of their rank patterns (figs. 11-12).

The previous discussion has focused on the relative rank positions of selected sulfides. Now, which sulfides are ranked over other sulfides? How frequently? Based on deposits with two or more sulfides reported and without regard to whether the sulfides are or are not adjacent in published lists, a detailed tabulation was made. All sulfides under consideration were treated as a member of a mineral pair. For each deposit, it was recorded which sulfide in the pair was listed first. Sulfide pairs found in 20 or more deposits (therefore likely to be giving more reliable estimates of mineral order) are underscored in the table 2. The table gives the percentage of deposits that the row sulfide was listed prior to the column sulfide if the two sulfides were treated as a pair. For example, pyrite was reported to be listed prior to (exceed) galena 89 percent of the time based on 89 deposits in which pyrite and galena are both reported (Table 2). Below is a summary based on Table 2 and in which one sulfide is superior to a second in at least 3 out of 4 cases, and based on observations from a minimum of 20 deposits:

Superior Sulfides	Inferior Sulfides	Percentage of Cases
pyrite	sphalerite	96
pyrite	chalcopyrite	93
pyrite	galena	89
arsenopyrite	galena	75
arsenopyrite	chalcopyrite	75

The third analyses made was on the nature of groupings of sulfides found in the 129 deposits of subset three. Which sulfides are associated with which other sulfides? While ideally all sulfides present should be considered, we have restricted our evaluation to just the first three sulfides reported for each deposit. Sulfides considered are pyrite, arsenopyrite, galena, chalcopyrite, sphalerite, pyrrhotite, tetrahedrite, scheelite, and stibnite. Pie diagrams for several of these sulfides (Figs. 13-19) show the minerals associated with each. Various percentages of deposits with a specific mineral were considered and reported in figure captions. For example, 88 percent of

2. However, major departure was found in sphalerite frequency of occurrence for subset two and discussed earlier in text.

the deposits in subset three contain pyrite among the first three sulfides listed. Inspection of these diagrams suggest the following:

1. Pyrite is essentially equally present with most sulfides considered, though slightly less for assemblages including pyrrhotite and stibnite.
2. Arsenopyrite exhibits considerable range. It is prominently present in assemblages including pyrrhotite, pyrite, and sphalerite; to a much lesser extent in assemblages with chalcopyrite, galena, and stibnite.
3. Galena, like arsenopyrite, shows preferred mineral associations. It is strongly associated with assemblages containing chalcopyrite and stibnite, has intermediate associations with sphalerite and arsenopyrite, has low associations with pyrrhotite and chalcopyrite and no associations at all with stibnite.
4. Sphalerite is most likely found in associations with galena and pyrite, has intermediate levels of association with arsenopyrite and chalcopyrite, is found infrequently in assemblages including pyrrhotite and not at all with stibnite.
5. Pyrrhotite is most likely associated with assemblages containing arsenopyrite. It has an intermediate level of association with pyrite, sphalerite, and chalcopyrite. Rare associations are found with galena and none at all with stibnite.
6. Stibnite is found infrequently at these rank levels and only with arsenopyrite and pyrite.

Other rarely reported sulfides among the first three sulfides listed include tetrahedrite (with assemblages containing galena, and chalcopyrite), and scheelite (with chalcopyrite and galena).

NON-SULFIDES

All of the deposits have quartz. Other alteration and gangue minerals are reported infrequently. The second rank nonsulfide reported is calcite, which is in at least 10 percent of the deposits. It is followed by ankerite (6 percent of the deposits), mariposite (5 percent), sericite (4 percent), chlorite (4 percent) and albite (3 percent). Other nonsulfides found in about 2 percent of the deposits include biotite, tourmaline, dolomite, other carbontates (e.g., rhodochrosite) and talc. In about 1 percent of the deposits (2 or more deposit) are found garnet, hornblende, muscovite, epidote, apatite, ilmenite, barite, tremolite, rutile, dousonite, siderite, graphite, and kaolinite. Some of these minerals may represent part of the mineralogy of the host rock and are not appropriate to consider as part of the mineralizing suite. Note that in this report scheelite is included in the discussion of sulfides.

EXPLANATION OF DATA COMPILATION FOR LOW-SULFIDE AU-QUARTZ VEINS

The main data compilation (table 3) includes deposit name, country, local area, minerals, gold grade, silver grade, tonnage, and references. Abbreviations used for countries and minerals are in Appendix A and B, respectively. e erences cited in the text and tables are listed after table 2.

NAME -- Name may represent major mine, group of mines, a mining district, a local town, or a prominent feature adjacent to the deposit. Deposits that include more than one mine or properties are in table 4A (indicated by a "*"

in table 3). Names of mines or other properties are listed alphabetically in table 4B followed by the deposit name of which it is a member.

COUNTRY -- Country, country-state and country-province are expressed in four-letter codes (Appendix A). For country-state and country-province codes, the first two letters represent country and the second two letters represent state or province.

AREA -- Unusally a local political subdivision. In the United States, (except Alaska) and in Nova Scotia, it is a county name; in Alaska, area gives the 1^{o} by 3^{o} quadrangle (1:250,000) name. In Victoria, Australia, area is a mining district name.

MINERALS -- Ore minerals, sulfides and related minerals preceding the semicolon: nonsulfides and some alteration minerals following semicolon. Order is as reported in reference. Abbreviations used are in Appendix B.

Au -- Gold grade is in grams per metric ton (To convert to ounces per short ton multiply by 0.0292).

Ag -- Silver grade is in grams per metric ton. (To convert to ounces per short ton multiply by 0.0292).

Tons -- Metric tons of ore. Deposits containing less than 100 tons of ore excluded from this tabulation.

References -- Sources of grade, tonnage and mineralogical data. References are listed after Table 5.

REFERENCES CITED

Albers, J.P., 1961, Economic geology of the French Gulch, Shasta and Trinity counties: California Division of Mines and Geology Special Report 85, 41 p.

Alldrick, D.J., 1983, The Mosquito Creek Mine, Cariboo Gold Belt: British Columbia Ministry of Energy, Mines and Petroleum Resources Paper 1983-1, p. 99-112.

Allgood, G.M., Lovejoy, R.W., and Allgood, R.W., 1985, James Gold Mines, Toulumne County, California: Sonora Mining Corporation, 13 p.

Anonymous, 1980, Canadian Mineral deposits not being mined in 1980: Canadian Department of Energy, Mines and Resources Internal Report MRI 80/7, 294 p.

Averill, C.V., 1933, Gold deposits of the Redding and Weaverville quadrangle: California Journal of Mines and Geology, v. 29, no. 3, p. 2-72.

Averill, C.V., 1935, Mines and mineral resources of Siskiyou County: California Journal of Mines and Geology, v. 31, no. 3, p. 255-338.

Averill, C.V., 1942, Mines and mineral resources of Sierra County: California Division of Mines Report 38, p. 17-48.

Averill, C.M., and Norman, L.A., Jr., 1951, Counties of California, mineral production and significant mining activites of 1949: California Journal of Mines and Geology, v. 47, no. 2, p. 271-680.

Barawanath, William, Jr., 1953a, The Ballarat goldfield, in Edwards, A.B., ed., Geology of Australian ore deposits: Empire Mining and Metallurgical Congress, 5th, Melbourne, Australian Institute of Mining and Metallurgy, p. 986-1002.

Barawanath, William, Jr., 1953b, The Daylesford goldfield, in Edwards, A.B., ed., Geology of Australian ore deposits: Empire Mining and Metallurgical Congress, 5th, Melbourne, Australian Institute of Mining and Metallurgy, p. 1054-1060.

Barr, D.A., 1980, Gold in the Canadian Cordillera: Canadian Institute of Mining and Metallurgy. Bulletin, v. 73, No. 818, p. 59-76.

Bell, L.V., 1948, Caribou mine, in Stuctural geology and Canadian ore deposits: Montreal, Canadian Institute of Mining and Metallurgy, p. 927-936.

Berg, H.C., Decker, J.E., and Abramson, B.S., 1981, Metallic mineral deposits of southeastern Alaska: U.S. Geological Survey Open-File Report 81-122, 136 p.

Berger, B.R., 1986, Grade and tonnage model of low-sulfide Au-quartz veins, in Cox, D.P., and Singer, D.A., eds., Mineral Deposit Models: U.S. Geological Survey Bulletin 1693, p. 239.

Bliss, J.D., 1986, Grade and tonnage model of low-sulfide Au-quartz veins, in Cox, D.P., and Singer, D.A., eds., Mineral Deposit Models: U.S. Geological Survey Bulletin 1693, p. 239-243.

Bowen, K.G., and Whiting, R.G., 1975, Gold in the Tasman Geosyncline, Victoria, in Knight, C.L., ed., Economic Geology of Australia and Papua New Guinea, 1. Metals: Australasian Institute of Mining and Metallurgy Monograph No. 5, p. 647-659.

Bowen, O.E., Jr., and Crippen, R.A., 1948, Geologic maps and notes along Highway 49, in Geologic Guidebook along Highway 49--Sierra Gold Belt: California Division of Mines and Geology Bulletin 141, p. 35-86.

Bowen, O.E., Jr., and Crippen, R.A., Jr., 1948, Geologic maps and notes along Highway 49: California Division of Mines and Geology Bulletin 141, 164 p.

Bowen, O.E., Jr., and Gray, C.H., Jr., 1957, Mines and mineral deposits of Mariposa County, California: California Journal of Mines and Geology, v. 53, nos. 1 and 2, p. 35-343.

Boyle, R.W., 1979, The geochemistry of gold and its depoists: Canada Geological Survey Bulletin 280, 584 p.

Brooks, H.C., and Ramp, L., 1968, Gold and silver in Oregon: Oregon Department of Geology and Mineral Industries Bulletin 61, 338 p.

Brown, G.C., 1916a, Kern County: California State Mining Bureau, Report XIV of the State Mineralogist, Part IV, Chapter II, p. 471-523.

Carlson, D.W., and Clark, W.B., 1954, Mines and mineral resources, Amador County, lode gold mines: California Journal of Mines and Geology, v. 50, p. 167-195.

Chandra, D.K., 1961, Geology and mineral deposits of the Colfax and Foresthill quadrangles: California Division of Mines and Geology Special Report 67, 50 p.

Clark, W.B., 1970, Gold districts of California: California Division of Mines and Geology Bulletin 193, 186 p.

Clark, W.B., and Carlson, D.W., 1956, Mines and mineral resources of El Dorado County, California: California Journal of Mines and Geology, v. 52, no. 4, p. 369-462.

Clark, W.B., and Lydon, P.A., 1962, Mines and mineral resources of Calaveras County, California: California Division of Mines and Geology County Report 2, 217 p.

Coldham, J.C., 1953, Clunes Goldfield, in Edwards A.B., ed., Geology of Australian ore deposits: Empire Mining and Metallurgical Congress, 5th, Melbourne, Australian Institute of Mining and Metallurgy, p. 1034-1041.

Coveney, R.M., 1981, Gold quartz vein and auriferous granites at the Oriental Mine, Alleghany district, California: Economic Geology, v. 76, no. 8, p. 2176-2199.

Cox, D.P., and Singer, D.A., 1986, eds., 1986, Mineral deposit models: U.S. Geological Survey Bulletin 1693, 379 p.

Crawford, J.J., 1894, Gold--Nevada County: California State Mining Bureau, Twelfth Report of the State Mineralogist, p. 185-203.

Crawford, J.J., 1896, Gold--Nevada County: California State Mining Bureau, Thirteenth Report of the State Mineralogist, p. 234-271.

Crohn, P.W., 1953, The Glen Wills-Sunnyside Goldfield, in Edwards A.B., ed., Geology of Australian ore deposits: Empire Mining and Metallurgical Congress, 5th, Melbourne, Australian Institute of Mining and Metallurgy, p. 1090-1095.

DeYoung, J.H., 1978, Mineral resource map of the Chandalar quadrangle, Alaska: U.S. Geological Survey Miscellaneous Field Studies Map MF-878-B, 2 sheets, scale 1:250,000.

Dohms, P.H., Hoagland, R.D., and Allgood, G.M., 1984, Geology of the Jamestown mine area, Mother Lode Gold Belt, Tuolumne County: Sonora Mining Corporation and Condor Minerals Management, 11 p.

Donnelly, Maurice, 1934, Geology and mineral deposits of the Julian district, San Diego County, California: California Jounal of Mines and Geology, v. 30, no. 4, p. 332-370.

Eberlein, G.D., Chapman, R.M., and Foster, H.L., 1977, Table describing known mineralliferous and selected nonmineralliferous mineral deposit in central Alaska: U.S. Geological Survey Open-File Report 77-168-D, 137 p.

Edwards, A.B., 1953, Mines of the Walhalla-Wood's Point auriferous belt, in Edwards, A.B., ed., Geology of Australian ore deposits: Empire Mining and Metallurgical Congress, 5th, Australasian Institute of Mining and Metallurgy, p. 1061-1095.

El Boushi, and Ismail M., 1972, Geology of the Gebeit Gold Mine, Democratic Republic of the Sudan: Economic Geology, v. 67, no. 4, p. 481-486.

Eric, J.H., 1948, Copper in California: California Division of Mines Bulletin 144, 429 p.

Ferguson, H.G., and Gannett, R.W., 1932, Gold quartz veins of the Alleghany district, California: U.S. Geological Survey Professional Paper 172, 139 p.

Girroir, E.L., 1960, Gold production by districts 1862-1960, in Annual Report on Mines--1960: Nova Scotia Department of Mines, p. 116-117.

Goodwin, J.G., 1957, Lead and zinc in California: California Journal of Mines and Geology, v. 53, nos. 3-4, p. 353-724.

Goodyear, W.A., 1888, Kern County: California State Mining Bureau, Eighth Annual Report of the State Mineralogist, p. 309-324.

Grant, R.Y., 1951, Important gold-silver mines of Japan: General Headquarters, Supreme Commander for the Allied Powers, National Resources Section Report 144, 120 p.

Hanks, H.G., 1886, Sixth report of the State Mineralogist: California State Mining Bureau: v. 6, part 1, 145 p.

Haupt, J.C., 1982, The minerals of the Maldon Goldfield: The Mineral Society of Victoria, Special Publication No. 1, 36 p.

Hill, J.M., 1933, Lode deposits of the Fairbanks district, Alaska: U.S. Geological Survey Bulletin 849-B, p. 29-163.

Hobson, J.B., and Wiltsee, E.A., 1893, Nevada County: California State Mining Bureau, Eleventh Report of the State Mineralogist p. 263-318.

Hotz, P.E., 1971, Geology of lode gold districts in the Klamath Mountains, California and Oregon: U.S. Geological Survey Bulletin 1290, 91 p.

Hyndman, P.C., Leszcykowski, A. M., McHugh, E.L., and Stebbins, S.A., 1983, Mineral investigation of the Tuolumne River RARE II area (No. 5258), Tuolumne County, California: U.S. Bureau of Mines Open-File Report MLA 73-83, 35 p.

Imai, Hideki, 1978, Geological studies of the minerals deposits in Japan and East Asia: University of Tokyo Press, 392 p.

Irelan, William, Jr., 1888, Amador county: Eighth Annual Report of the State Mineralogist, California State Mining Bureau, p. 41-115.

Johnston, W.D., Jr., 1940, The gold-quartz veins at Grass Valley, California: U.S. Geological Survey Professional Paper 194, 101 p.

Julihn, C.E., and Horton, F.W., 1938, Mines of the southern Mother Lode region, part I--Calaveras County: U.S. Bureau of Mines Bulletin 413, 140 p.

Julihn, C.E., and Horton, F.W., 1940, Mines of the Southern Mother Lode Region, part II-Tuolumne and Mariposa Counties: U.S. Bureau of Mines Bulletin 424, 179 p.

Junner, N.R., 1921, The geology of the gold occurrences of Victoria, Australia: Economic Geology, v. 16, no. 2, p. 79-123.

Kenny, J.R.L., 1953, The Harrietville Goldfield, in Edwards A.B., ed., Geology of Australian ore deposits: Empire Mining and Metallurgical Congress, 5th, Melbourne, Australian Institute of Mining and Metallurgy, p. 1082-1089.

Knopf, Adolph, 1929, The Mother lode system of California: U.S. Geological Survey Professional Paper 157, 88 p.

Laizure, C.M., 1928, Madera County: California Division of Mines and Mining, Report XXIV of the State Mineralogist, v.24, no. 4, p. 317-345.

Laizure, C.M., 1935, Current mining activities in the San Francisco district with special reference to gold: California Journal of Mines and Geology, v. 31, p. 24-48.

Lindgren, Waldemar, 1894, Sacramento Folio: U.S. Geological Survey Geologic Atlas, no. 5, 5 p., 4 maps.

Logan, C.A., 1922, Notes on the West Point district, Calaveras County: California State Mining Bureau, Report XVIII of the State Mineralogist, v. 18, no. 1, p. 15-21.

Logan, C.A., 1924, Nevada County: California State Mining Bureau, Report XV of the State Mineralogist, v. 20, no. 1, p. 7-12.

Logan, C.A., 1925, Siskiyou county, Salmon River district: California Journal of Mines and Geology, v. 21, p. 419-491.

Logan, C.A., 1926, Shasta County: California state mining Bureau, Report XXII of the State Mineralogist, v. 22, no. 2, p. 121-216.

Logan, C.A., 1927, Amador County: California State Mining Bureau, Report XXIV of the State Mineralogist, p. 131-202.

Logan, C.A., 1928, Tuolumne County: California State mining Bureau, Report XXIV of the State Mineralogist, p. 3-53.

Logan, C.A., 1929, Sierra County: California Mining Bureau, Report XXV of the State Mineralogist, v. 25, no. 2, p. 151-212.

Logan, C.A., 1930a, Butte County, gold quartz mines: California Division of Mines Report XXVI of the State Mineralogist, v. 26, no. 4, p. 360-412.

Logan, C.A., 1930b, Nevada County: California Division of Mines, Report XXVI of the State Mineralogist, p. 89-137.

Logan, C.A., 1934, Nevada County: California Journal of Mines and Geology, v. 31, no. 1, p. 10-17.

Logan, C.A., 1936, Gold Mines of Placer County: California Journal of Mines and Geology, v. 32, no. 1, p. 7-96.

Logan, C.A., 1938, Mineral resources of El Dorado County: California Journal of Mines and Geology, v. 34, no. 3, p. 206-280.

Logan, C.A., 1938, Mineral resources of El Dorado County: California Journal of Mines and Geology, v. 34, no. 3, p. 206-280.

Logan, C.A., 1941, Mineral resources of Nevada County: California Journal of Mines and Geology, v. 37, no. 3, p. 374-468.

Logan, C.A., 1949, Mines and mineral resources of Tuolumne County, California: California Journal of Mines and Geology, v. 45, no. 1, p. 47-83.

Logan, C.A., 1950, Mines and mineral resources of Madera County, California: California Journal of Mines and Geology, v. 46, no. 4, p. 445-482.

Logan, C.A., and Franke, H.A., 1936, Mines and mineral resources of Calaveras County: California Journal of Mines and Geology, v. 32, no. 3, p. 226-364.

Lydon, P.A., and O'Brien, J.C, 1974, Mines and Mineral resources of Shasta county California: California Division of Mines and Geology County Report 6, 154 p.

MacBoyle, Errol, 1918, Mines and mineral resources of Nevada County: California State Mining Bureau Report, v. 16, 270 p.

MacBoyle, Errol, 1919, Mines and mineral resources of Nevada County: California State Mining Bureau, Report Sixteen of the State Mineralgist, 270 p.

MacBoyle, Errol, 1920, Mines and mineral resources of Sierra County: California State Mining Bureau Report, 144 p.

Maclaren, J.M., 1908, Gold: its geological occurrence and geographic distribution: London, The Mining Journal, 687 p.

Maddren, A.G., 1913, Koyukuk-Chandalar region, Alaska: U.S. Geological Survey Bulletin 532, 116 p.

Malcolm, Wyatt, 1912, Goldfields of Nova Scotia: Geological Survey of Canada Memoir 20, 331 p.

Malcolm, Wyatt, 1929, Gold fields of Nova Scotia: Geological Survey of Canada Memoir 156, 253 p.

Mason, A.A., and Webb, B.P., 1953, The Malden Goldfield, in Edwards, A.B., ed., Geology of Australian ore deposits: Empire Mining and Metallurgical Congress, 5th, Melbourne, Australian Institute of Mining and Metallurgy, p. 1034-1041.

McCulloch, W.C., Oesterling, W.A., Spurck, W. H., and Tischler, M.S., 1964, Minerals for industry, Northern California: Southern Pacific Company, v. 2, 207 p.

McLaughlin, R.P., and Bradley, W.W., 1916, Madera County: California State Mining Bureau, Report XIV of the State Mineralogist, v. 14, Part IV, Chapter IV, p. 531-568.

McLeod, I. R., Barrie, J., and Corbett, D.W.P., 1966, Gold, in McLeod, I. R., ed., Australian mineral industry: The mineral deposit: Australian Bureau of Mineral Resources, Geology and Geophysics Bulletin 72, p. 249-287.

Miner, J.A., 1890, Butte county: California Journal of Mines and Geology, v. 10, p. 124-146.

Mosier, E.L., and Lewis, J.S., 1986, Analytical results, geochemical signatures, and sample locality map of lode gold, placer gold and heavy-mineral concentrates from the Koyukuk-Chandalar mining district, Alaska: U.S. Geological Survey Open-File Report 86-345, 172 p.

Murray, C.G., 1975, Tasman Geosyncline in Queensland -- mineralization, in Knight, C.L., ed., Economic geology of Australian and Papau New Guinea -- 1. metals: Australasian Institute of Mining and Metallurgy Monograph No. 5, p. 773-779.

Newhouse, W.H., 1936, A zonal gold mineraliztion in Nova Scotia: Economic Geology, v. 31, No. 8, p. 805-831.

O'Brien, J.C., 1952, Mines and mineral resources of Yuba county: California Journal of Mines and Geology, v. 48, no. 2, p. 143-179.

Oesterling, W.A., Spurck, W.H., and Tischler, M.S., 1964, Klamath Mountains and Cascade Range, in McCulloch, W.C., Oesterling, W.A., Spurch, W.H., and Tischler, M.S., eds., Minerals for Industry--Northern California, v. II, p. 87-190.

Peters, T.J., 1983, Mineral investigation of the Weaner Bally RARE II Area, (No. 5804), Trinity County, California: U.S. Bureau of Mines Open-File Report MLA 93-83, 22 p.

Queensland Department of Mines, 1953, Gympic goldfield, in Edwards, A.B., ed., Geology of Australian ore deposts, v. 1: Melbourne, Australiasian Institute of Mining and Metallurgy, p. 813-816.

Ray, G.E., 1983, Carolin Mine-Coquihalla Gold Belt: British Columbia Ministry of Energy, Mines and Petroluem Resources Paper 1983-1, p. 62-84.

Ray, J.C., 1933, The Willow Creek gold lode district, Alaska: U.S. Geological Survey Bulletin 849-C, p. 165-299.

Reed, J.C., and Coats, R.R., 1941, Geology and ore deposits of the Chichagof Mining district: U.S. Geological Survey Bulletin 929, 148 p.

Reynolds, D.G., 1965, Geology and mineralization of the Salsigne gold mine, France: Economic Geology, v. 60, no. 4, p. 772-791.

Singer, D.A., 1986, Summary statistics of grade-tonnage models, in Cox, D.P., and Singer, D.A., eds., Mineral Deposit Models: U.S. Geological Survey Bulletin 1693, p. 293-302.

Thomas, D.E., 1953a, The Bendigo Goldfield, in Edwards, A.B., ed., Geology of Australian ore deposits: Empire Mining and Metallurgical Congress, 5th, Melbourne, Australian Institute of Mining and Metallurgy, p. 1011-1027.

Thomas, D.E., 1953b, The Castlemaine-Chewton-Fryerstown goldfield, in Edwards, A.B., ed., Geology of Austrialian ore deposits: Empire Mining and Metallurgical Congress, 5th, Austrialian Institute of Mining and Metallurgy, p. 1042-1053.

Thomas, D.E., 1953c, Mineralization and its relationship to the geological structure of Victoria, in Edwards A.B., ed., Geology of Australian ore deposits: Empire Mining and Metallurgical Congress, 5th, Melbourne, Australian Institute of Mining and Metallurgy, p. 971-985.

Troxel, B.W., and Morton, P.K., 1962, Mines and mineral resources of Kern County, California: California Division of Mines and Geology County Report 1, 370 p.

Tucker, W.B., 1915a, Amador County: Report XIV of the State Mineralogist, California State Mining Bureau, Part I, p. 3-53.

Tucker, W.B., 1915b, Calaveras County: Report XIV of the State Mineralogist, California State Mining Bureau, Part I, p. 54-131.

Tucker, W.B., 1915c, Toulumne County: Report XIV of the State Mineralogist, California State Mining Bureau, Part I, p. 132-172.

Tucker, W.B., 1919, El Dorado County: Report XV of the State Mineralogist, California State Mining Bureau, p. 271-308.

Tucker, W.B., 1929, Kern County: Report XXV of the State Mineralogist, v. 25, no. 1, California Division of Mines and Mining, p. 20-81.

Tucker, W.B., 1934, Gold Resources of Kern County: California Journal of Mines and Geology, v. 29, nos. 3-4, p. 271-339.

Tucker, W.B., 1940, Mineral resources of the Kernville quadrangle: California Journal of Mines and Geology, v. 36, no. 4, p. 322-333.

Tucker, W.B., and Sampson, R.J., 1933, Gold resources of Kern County, California: California Journal of Mines and Geology, v. 29, p. 271-334.

Tucker, W.B., and Sampson, R.J., 1938, Mineral resources of Inyo County: California Journal of Mines and Geology, v. 34, no. 4, p. 368-500.

Tucker, W.B., Sampson, R.J., and Oakeshott, G.B., 1949, Mines and mineral resouces of Kern County, California: California Journal of Mines and Geology, v. 45, p. 203-297.

Wagner, J.R., 1970, Gold mines of California: San Diego, Howell-North Books, 259 p.

Waring, C.A., 1917, Butte County, in Mines and mineral resources of the counties of Butte, Lassen, Modoc, Sutter, and Tehama: California State Mining Bureau, Report XV of the State Mineralogist, p. 181-225.

Waring, C.A., 1919a, Placer County, Michigan Bluff district: California State Mining Bureau, Report XV of the State Mineralogist, p. 309-399.

Waring, C.A., 1919b, Placer Counmty, MIchigan Bluff district: California State Mining Bureau, Report XV of the State Mineralogist, p. 309-399.

Webber, B.N., 1952, Reconnaisance of the Alex Hill and Mad Kiss mines, Cuyuni Goldfield, Aurora district, Cuyuni River, British Guiana: Geological Survey of British British Guiana Bulletin 23, p. 79-86.

Weber, F.H., Jr., 1963, geology and Mineral Resources of San Diego County, California: California Division of Mines and Geology County Report 3, 309 p.

Wells, D.E., Pittman, T.L., Brew, D.A., and Douglass, S.L., 1986, Map and description of the metalliferous mineral deposits in the Juneau, Taku River, Atlin and part of the Skagway quadrangles, Alaska: U.S. Geological Survey Open-File Report 85-717, 332 p.

Williams, G.J., 1974a, Gold mineralization in Precambrian rocks, in Williams, G.J., ed., Economic geology of New Zealand: Australasian Institute of Mining and Metallurgy, The T.J. McKee Memorial Volume, p. 19-32.

Williams, G.J., 1974b, Gold-scheelite mineralization in rocks of the New Zealand geosycline, in Williams, G.J., ed., Economic Geology of New Zealand: Australasian Instituite of Mining and Metallurgy, p. 41-59.

Wisker, A.L., 1936, The gold-bearing veins of Meadow Lake district, Nevada County: California Journal of Mines and Geology, v. 31, no. 2, p. 189-204.

APPENIDX A

Name of countries for the abbreviations used in tables.

ABBREVIATION	COUNTRY
AUNS	Australia, New South Wales
AUVC	Australia, Victoria
AUQL	Australia, Queensland
CNBC	Canada, British Columbia
CNNS	Canada, Nova Scotia
FRNC	France
GUYN	Guyana
NZLD	New Zealand
SUDN	Sudan
USAK	United States, Alaska
USCA	United States, California
USOR	United States, Oregon

APPENDIX B

Abbreviation for minerals and elements used in tables.

Abbreviation	Mineral or element
Ag	Silver
alb	Albite
and	Andalusite
ank	Ankerite
ap	Apatite
apy	Arsenopyrite
arg	Argentite
As	Arsenic
Au	Gold
bar	Barite
biot	Biotite
Bi	Bismuth
Bism	Bismothite
bor	Bormite
boul	Boulangerite
bour	Bournonite
calc	Calcite
carb	Carbonites
cass	Cassiterite
chl	Chlorite
cos	Cosalite
cov	Covellite
Cu	Copper
dan	Danaite
dol	Dolomite
daw	Dawsonite
ep	Epidote
ery	erythite
gal	Galena
gra	Graphite
guan	Guanajuatite
gyp	Gypsum
hes	Hessite (?)
horn	Hornblende
ilm	Ilmenite
jam	Jamesonite
kaol	Kaolinite
lol	Lollingite
mad	Maldonite
mag	Magnetite
mar	Mariposite
marc	Marcasite
mill	Millerite

Abbreviation	Mineral or element
moly	Molybdenite
musc	Muscovite
nic	Nicolite
olig	Oligoclase
orp	Orpiment
petz	Petzite
po	Pyrrbrotite
prou	Proustite
pygr	Pyrargyrite
pyr	Pyrite
qtz	Quartz
real	Realgar
rh	Rhodochrosite
rut	Rutile
Sb	Antimony
sch	Scheelite
ser	Sericite
stib	Stibnite
sulf	Undefined Sulfides
syl	Sylvanite
tel	Telluride
teth	Tetrahedrite
tour	Tourmaline
trem	Tremodlite
uran	Uranite
wolf	Wolframite

Table 1. Low-sulfide Au-quartz veins with two or more sulfides (plus scheelite) (N=148). For each sulfide listed is given the percentage of the deposits in which the mineral was reported as well as it median rank. Also given is the percentage of deposits each mineral was ranked first, second, etc. For example, pyrite ranks first in 69 percent of the deposits in which pyrite is reported.

Mineral Name[1]	Percentage of deposits with mineral[2]	Median Rank	Ranks[3] (Percentage of deposits at each) 1	2	3	4	5	6
Pyrite	89	1	69	18	9.2	3.1	1.5	---
Galena	67	2	7.1	43	15	17	9.1	9.1
Arsenopyrite	57	2	29	43	12	8.3	8.3	---
Chalcopyrite	52	3	3.9	25	30	25	12	5.2
Sphalerite	39	3	5.3	12	44	16	16	7.0
Pyrrhotite	22	2	30	39	24	6.1	---	---
Stibnite	11	4	24	5.9	29	23	12	5.9
Tetrahedite	8.8	3	---	38	31	31	---	---
Scheelite	7.4	4	18	9.1	9.1	18	18	27

1. Minerals listed in decreasing order by percentage of deposits reporting each mineral.
2. Percentage of deposits with four or more sulfides (n=88) contain the following minerals: 89 percent pyrite, 70 percent galena, 70 percent sphalerite, 68 apercent arsenopyrite, 61 percent chalcopyrite, 30 percent pyrrhotite, 19 percent tetrahedrite, and 14 percent stibnite.
3. Histograms with these ranks for each mineral compare each to the histrogram for pyrite (figures 5-12).

Table 2. Detail tabulation of relative abundance of reported sulfides in low-sulfide Au-quartz veins. Entries in the table give the percentage of deposits that the sulfides reported in row will exceed the amount of sulfide given in the column. Number of observations involved for each mineral pair is given in parenthesis. Mineral pairs with 20 or more deposits have percentage underscored. See Appendix B for mineral codes.

	teth	stib	sch	po	sph	cpy	apy	gal
pyr	100 (10)	64 (11)	93 (14)	62 (21)	96 (53)	93 (72)	68 (73)	89 (89)
gal	64 (11)	56 (9)	100 (6)	8 (13)	63 (48)	41 (49)	25 (40)	
apy	78 (9)	54 (13)	100 (10)	57 (23)	81 (26)	75 (40)		
cpy	70 (10)	83 (6)	90 (10)	17 (18)	52 (29)			
sph	71 (7)	60 (5)	80 (5)	9 (11)				
po	100 (5)	50 (2)	100 (6)					
stib	50 (2)							

Table 3. Compilation of deposit name, country, local area, minerals, gold and silver grades, tonnage, and reference (see text for full explanation of each field); for low-sulfide Au-quartz veins.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Al	AUVC	Walhalla-Woods Point	Au, bour, teth, jam, apy; qtz	26.	-	470.	Bowen and Whiting, 1975; Edwards, 1953.
AVG-Sanderson*	USCA	Calaveras	Au, gal, pyr, sph; qtz	63.		2.5	Clark, 1970; Clark and Lydon, 1962.
Achilles	NZLD	Lake	Au, pyr, apy, cpy; qtz	17.	-	1.3	Williams, 1974b.
Alabama Shoot	AUVC	-	-	150.	-	600.	Edwards, 1953.
Alaska-Juneau*	USAK	Juneau	Au, pyr, po, apy, gal sph, cpy; qtz, ser, tour	1.1	0.74	80,000.	Wells and others, 1986; Berg and others, 1981.
Alex Hill-Mad Kiss*	GUYN	Cuyuni Goldfield	Au, pyr; qtz, ank	18.	-	200.	Webber, 1952.
Alleghany East*	USCA	Sierra	Au, pyr, apy; qtz, ank mar, talc	18.	-	110.	Averill, 1942, Ferguson and Gannett, 1932; Logan, 1929; MacBoyle, 1920; MRDS[1] Nos. M021657, M021663, M021664, X0254343.
Alleghany West*	USCA	Sierra	Au, pyr, apy; qtz, musc, calc, dol, daw, ank, ser, mar, rut, trem	9.9	8.2	720.	Ferguson and Gannett, 1932; Coveney, 1981; Averill, 1942; McCulloch and others, 1964; MacBoyle, 1920; MRDS Nos. X025322, X025324, X025318.
Alto	USCA	Calaveras	Au, pyr; qtz	2.	-	750.	Clark and Lydon, 1962; Tucker, 1915b; MRDS No. M005983.
Amador City*	USCA	Amador	Au, pyr, apy, stib; qtz	15.	-	4,100.	Carlson and Clark, 1954; Logan, 1927, San Francisoc Chronicle, Dec. 3, 1985; MRDS Nos. M00500, M005016.
American Bar Quartz	USCA	Placer	Au, pyr; qtz	17.	-	9.1	Logan, 1936, 1922; Waring, 1917; MRDS No. M021783.
Amo	JAPN	-	Au, arg, pyr, po, apy, gal, sph; qtz, calc, gra	10.2	-	73.	Grant, 1951.

1. MRDS--Mineral Resources Data System, a database housed by the U.S. Geolgoical Survey, Reston, Virg.; number given is the record number in the database applicable to this deposit.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Ample	CNBC	Bridge River	Au, pyr, apy; qtz	8.2	-	2.8	MINFILE No. 92J/NE069[2].
Angeles Camp-Carson Hill*	USCA	Calaveras	Au, pyr, tell, teth, cpy, gal, petz, moly, sch; qtz, ank, mar, calc, dol, alb, ser, talc	5.2	-	17,000	Clark an Lydon, 1962; Tucker, 1915b; Logan 1934; Logan and Franke, 1936; Crawford, 1894; Logan, 1936; Julihn and Horton, 1938; Goodwin, 1957; Bowen and Creppen, 1948; MRDS Nos. M006509, M006456, M006458, M006491, M006278, M006488, M006486, M006331, M006313, M006325, M006487.
Argo	USCA	Mariposa	Au, pyr; qtz	26.	-	0.64	Julihn and Horton, 1940; Bowen and Gray, 1957; MRDS No. M009476.
Argus Hill	AUVC	Castlemaine-Chewton	-	14.	-	49.	Thomas, 1953c.
Ashland*	USOR	Jackson	Au, pyr, cpy; qtz	27.	-	140.	Hotz, 1971; Brooks and Ramp, 1968.
Aurora Borealis-Bessie*	USAK	Juneau	Au, apy, pyr, gal, sph; qtz	16.	-	0.62	Wells and others, 1986.
Bagby*	USCA	Mariposa	Au, pyr, apy, cpy, sph, gal, nic, mill, ery, dan, teth; qtz, ank, mar, talc	5.9	1.0	540.	Bowen and Gray, 1957; MRDS Nos. W00367, M009549.
Bagby North*	USCA	Mariposa	Au, pyr, gal (Ag), teth, cpy, sph; qtz	4.1	18	21.	Bowen and Gray, 1957; MRDS Nos. M009399, M009575, M009401.
Ballarat*	AUVC	Bendigo-Ballarat	Au, pyr, apy, gal, sph, Sb, cpy; qtz, alb, kaol, calc, dol, ank	10.	-	5000.	Barawanath, 1953a; Bowen and Whiting, 1975.
Barrandum	USCA	Siskiyou	-	13.	-	0.1	Oesterling and others, 1964.
Bear Valley*	USCA	Mariposa	Au, pyr, cpy, gal; qtz	30.	5.7	27.	Bowen and Gray, 1957; MRDS Nos. M009399, M009572, M009401.

2. MINFILE--A database housed by the British Columbia Ministry of Energy, Mines and Petroleum Resources on mines and prospects in British Columbia; number(s) given is record number applicable to deposit.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Bear Valley South*	USCA	Mariposa	-	27.	-	8.2	Bowen and Gray, 1957; MRDS Nos. M009590, M009587, M009581.
Beaver Dam	CNNS	Hants	Au, po, apy, pyr, cpy, gal; qtz, gar, olig, horn, biot, musc, tour, ep, ilm	11.	-	1000.	Girroir, 1960; Malcolm, 1929; Northern Miner, 1986,v. 72, No. 2, p. 3.
Belden*	USCA	Amador	Au, po, gal, sph; qtz	41.	-	11.	Carlson and Clark, 1954.
Bendigo	NZLD	Lake	Au, pyr, gal, sph; qtz	11.	2.2	630.	Williams, 1974b.
Bendigo*	AUVC	Bendigo-Ballarat	Au, apy, pyr, po, cpy, sph gal, stib; qtz, ank, ser, calc, alb	16.	-	15,000.	Thomas, 1953a; Bowen and Whiting, 1975.
Berry Creek	USCA	Butte	-	17.	-	5.0	Logan, 1930a.
Bethanga	AUVC	Bethanga	Au, pyr, apy, cpy; qtz	39.	-	63.	Thomas, 1953b; Bowen and Whiting, 1975.
Big Oak Flat*	USCA	Tuolumne	Au, gal; qtz	13.	-	2900.	Logan, 1928, 1949; Clark, 1970; Julihn and Horton, 1940; Tucker, 1915c.
Birthday-William-Fancy*	AUVC	Scarsdale-Berringa	-	8.2	-	910.	Bowen and Whiting, 1975.
Black Bear*	USCA	Siskiyou	-	18.	-	260.	Averill, 1935.
Black Boy	USCA	Siskiyou	Au, pyr; qtz, calc	50.	-	57.	Averill, 1935.
Blockhouse	CNNS	Lunenburg	-	20.	-	5.6	Girroir, 1960.
Blackstone*	USCA	Calaveras	Au, gal, pyr, cpy, sph; qtz	26.	-	6.9	Clark and Lydon, 1962; MRDS No. M006751.
Blue Mountain	USCA	Kern	Au, pyr; qtz	14.	-	8.2	Troxel and Morton, 1962.
Bonanza	NZLD	East Otago	Au, pyr; qtz (?)	29.		2.2	Williams, 1974b.
Bondurant*	USCA	Mariposa	Au, pyr, cpy, sph, gal; qtz	17.	11.	21.	Bowen and Gray, 1957; MRDS No. M009482.
Braden	USOR	Jackson	Au, pyr, apy, cpy, gal; qtz, calc	15.	-	4.2	Hotz, 1971; Brooks and Ramp, 1968.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Bralonne-Pioneer	CNBC	Bridge River	Au, pyr, apy, sph, sch; qtz, carb, mar	18.	4.1	7200.	Barr, 1980.
Broken Hills	USCA	Shasta	Au, pyr, apy; qtz	12.	-	0.36	Averill, 1933; Oesterling and others, 1964.
Brookfield	CNNS	Queens	Au, apy, pyr, cpy; qtz, ank, calc, chl	13.	-	100.	Girroir, 1960; Malcolm, 1929.
Browns Valley*	USCA	Yuba	Au, gal, pyr; qtz	12.	-	520.	Clark, 1970.
Buller-Mokihinui*	NZLD	South Island	Au, pyr;	38.	-	9.1	Williams, 1974b.
Caledonia	AUVC	Castlemaine-Chewton	-	13.	-	23.	Thomas, 1953a.
Caribou	CNNS	Halifax	Au, po, apy, pyr, cpy, wolf, sch; qtz, musc, tour, ap	16.	-	170	Bell, 1948; Girroir, 1960.
Caribou-Aurum*	CNBC	Island Mt.	Au, pyr, gal, apy, sch, sph, cos; qtz, ank	14.	1.6	3100.	MINFILE Nos. 92H019, 93H006; Alldrick, 1983.
Carleton	CNNS	Yarmouth	Au, apy, pyr, gal, cpy; qtz, calc	14.	-	0.43	Girroir, 1960; Malcolm, 1929.
Cassilis	AUVC	Cassilis	Au, pyr, apy, gal, sph	25.	-	120.	Bowen and Whiting, 1975; Thomas, 1953b.
Central	USCA	Siskiyou	-	23.	-	2.3	Oesterling and others, 1964; Averill, 1935.
Central Rawdon	CNNS	Hants	Au, apy, pyr, gal; qtz, musc, ank, calc, chl	43.	-	4.8	Girroir 1960; Malcolm, 1929; Newhouse, 1936.
Chewton	AUVC	Castlemaine-Chewton	-	8.	-	79.	Thomas, 1953b.
Chinese Camp*	USCA	Tuolumne	Au, pyr; qtz, ank, mar	4.7.	-	2,000.	Logan, 1928, 1949; Clark, 1970; Julihn and Horton, 1940; Wagner, 1970, Tucker, 1915c.
Clark	USAK	Juneau	Au, po, cpy; qtz	1.5	-	5.0	Wells and others, 1986.
Cleary Hill	USAK	Livengood	Au, apy, sph, gal, cpy, jam, cass, cov, sch	55.	12.	27.	Hill, 1933; Eberlein and others, 1977.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Clunes Goldfield*	AUVC	Clunes	Au, pyr; qtz	13.	-	2,400.	Coldham, 1953; Bowen and Whiting, 1975.
Coarsegold	USCA	Madera	-	6.5	-	45.	Laizure, 1928, 1935; Logan, 1950; McLaughlin and Bradley, 1916; MRDS No. MO22296.
Cobol	USAK	Sitka	Au, apy, sph, gal, pyr, cpy; qtz	25.	-	.120	Berg and others, 1981.
Cochrane Hill	CNNS	Guysborough	Au, apy, pyr, po, gal, wolf; qtz, and, olig, horn, biot, musc, tour, ep, ilm, ap, alb, calc, ser, chl	5.5	-	570.	Girroir, 1980; Malcolm, 1929; Newhouse, 1936.
Colfax*	USCA	Placer	Au, pyr, gal; qtz	41.	-	75.	Waring, 1917; Logan 1936; Chandra, 1961; MRDS No. C012318.
Colombo-Bullion*	USCA	Sierra	Au, pry, gal; qtz	13.	.35	28.	McCulloch and others, 1964; Averill 1942; Logan, 1929; MRDS No. X025488.
Confidence-Lamphere*	USCA	Tuolumne	Au, gal; qtz	12.	-	510.	Logan, 1928, 1949; Clark, 1970; Julihn and Horton, 1940; Tucker, 1915c; MRDS Nos. WO26071, Wo21401.
Coquihalla-Carolin*	CNBC	Coquihalla	Au, po, pyr, apy, cpy; qtz, calc, alb, chl, ser	4.2	-	3500.	MINFILE No. 092H/NW003; Ray, 1983.
Cotton Creek	USCA	Mariposa	Au, pyr, cpy, gal; qtz	9.1	5.1	4.4	Bowen and Gray, 1957.
Coulterville*	USCA	Mariposa	Au, pyr, gal, teth, sph, cpy, cov; qtz, ank, mar	12.	4.4	460.	Bowen and Gray, 1957; MRDS Nos. MO09290, MO09307, WO24136, MO09323.
Coulterville South*	USCA	Mariposa	-	8.9	3.8	0.54	Bowen and Gray, 1957.
Country Harbour	CNNS	Guysborough	-	12.	-	26.	Girroir, 1960; Malcolm, 1929.
Cove District*	USCA	Kern	Au, pyr, cpy, sph; qtz, calc, ser, chl, bar, alb	7.5	-	1400.	Troxel and Morton, 1962; Clark, 1970.
Cow Bay	CNNS	Halifax	-	27.	-	1.4	Girroir 1960; Malcolm, 1929.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Cox, Bolyan, & Loberg	USAK	Sitka	Au, pyr; qtz, chl	36.	-	0.12	Reed and Coats, 1941.
Cranberry Head	CNNS	Yarmouth	Au, apy, gal; qtz	21.	-	0.17	Girroir, 1960; Malcolm, 1929.
Cummings	USCA	Siskiyou	Au, pyr; qtz	13.	-	57.	Hotz, 1971; Averill, 1935.
Dalesford*	AUVC	Dalesford	-	12.	-	1200.	Baragwanath, 1953b; Bowen and Whiting, 1975.
Damascus*	USCA	Placer	Au, apy, gal; qtz	14.	-	120.	Logan, 1936; Waring, 1919; Crawford, 1917; McCulloch and others, 1964; Eric, 1948; MRDS No. X024424.
Defender	USCA	Amador	Au, pyr, sph, cpy; qtz	7.9	-	2.7	Carlson and Clark, 1954; MRDS No. M021298.
Delta	USCA	Shasta	Au, cpy, pyr, gal, apy	15.	-	3.2	Lydon and O'Brien, 1974.
Demarest*	USCA	Calaveras	-	14.	-	8.0	Clark and Lydon, 1962; MRDS No. M006058.
Densmore*	USCA	Tuolumne	Au, pyr, marc, sph, gal; qtz	20.	-	2.0	Julihn and Horton, 1940; MRDS No. W025983.
Dinero	USCA	Nevada	-	12.	-	250.	McCulloch and others, 1964; MacBoyle, 1919; MRDS No. C011851.
Dominion Consolidated	NZLD	Wakamarina River	Au, sch, pyr; qtz	5.5	-	95.	Williams, 1974b.
Dorothea*	USOR	Josephine	-	8.2	-	10.	Brooks and Ramp, 1968.
Eagle Nest	USCA	San Diego	Au, Ag, pyr, apy; qtz	17.	8.6	0.55	Weber, 1963.
Eagle River-Dividend*	USAK	Juneau	Au, pyr, apy, po, gal, sph, cpy, Cu; qtz	17.	-	560.	Wells and others, 1986.
Early-Sweetwater*	USCA	Mariposa	Au, pyr, cpy, gal; qtz	13.	22.	2.6	Bowen and Gray, 1957; MRDS Nos. M009900.
East Rawdon	CNNS	Hants	-	30.	-	14.	Girroir, 1960.
Eclipse No. 1	USCA	Kern	-	67.	-	0.45	Brown, 1916a.
Ecum Secum	CNNS	Halifax	-	15.	-	2.7	Girroir, 1960; Malcolm, 1929

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
El Dorado*	USCA	El Dorado	Au, pyr, gal; qtz, ank, mar	7.8	-	350.	Clark and Carlson, 1956; MRDS Nos. C007665, C007700, C007696.
El Portal*	USCA	Mariposa	Au, pyr, cpy, gal, tell; qtz	30.	6.2	330.	Clark, 1970; Bowen and Gray, 1957; MRDS Nos. M009851, M009876, M009849.
Eliza-Schroeder*	USCA	Siskiyou	-	12.	-	35.	Oesterling and others, 1964; Averill, 1935; Logan, 1925.
Enterprise	USCA	Madera	-	32.	-	5.3	McLaughlin and Bradley 1916; Laizure, 1928; Logan, 1950; MRDS No. M022213.
Escondido*	USCA	San Diego	Au, pyr; qtz	13.	8.9	17.	Weber, 1963.
Esmeralda*	USCA	Calaveras	Au, sulf, pyr; qtz, talc	53	-	9.0	Clark and Lydon, 1962.
Excelsior-Ryan*	USCA	Tuolumne	-	20.	-	30.	Logan, 1928, 1949; Tucker, 1915c.
Experimental	USCA	Tuolumne	Au, pyr, gal, cpy, tell; qtz, dol	7.4	-	25.	Logan, 1928, 1949; Tucker, 1915c.
Feliciana*	USCA	Mariposa	Au, pyr, gal, cpy; qtz	24.	3.6	11.	Bowen and Gray, 1957; MRDS No. W024173.
Fifteen-Mile Brook	CNNS	Queens	-	11.	-	2.5	Girroir, 1960; Malcolm, 1929.
Fifteen-Mile Stream	CNNS	Halifax	-	14.	-	45.	Girroir, 1960; Malcolm, 1929.
Fifty-Five	USCA	Tuolumne	-	17.	-	0.18	Logan, 1949.
Fine Gold*	USCA	Calaveras	Au, pyr, cpy, apy; qtz	6.9	-	2.5	Clark and Lydon, 1962; MRDS No. M007088.
Finney	USCA	Sierra	Au; qtz, carb, mar	13.	-	1.8	Averill, 1942; Logan 1929; MRDS No. X025488.
Forbstown*	USCA	Butte	Au, sulf, tell; qtz	5.9	-	510.	Logan, 1930a; Waring, 1917,
Ford*	USCA	Calaveras	Au, pyr, hes, petz; qtz	6.2	-	1.3	Clark and Lydon, 1962; Logan and Franke, 1936; MRDS No. M006094.
Forest Hill	CNNS	Guysborough	Au, moly(?), po, apy, pyr, wolf(?), sch; qtz, gar, olig, biot, tour, ep, ap, ser, chl	15.	-	52.	Girroir, 1960; Malcolm, 1929; Newhouse, 1936.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Fourth Crossing*	USCA	Calaveras	Au, pyr, sulf, uran; qtz, calc, ank, talc, ser	9.9	-	33.0	Clark and Lydon, 1962; MRDS No. M005956.
Francis Ormond	AUVC	Castlemaine-Chewton	-	8.6	-	55.	Thomas, 1953b.
Franklin	USCA	Siskiyou	-	29.	-	4.6	Oesterling and others, 1964; Hotz, 1971; Logan, 1925.
French*	USCA	Mariposa	-	27.	-	18.	Bowen and Gray, 1957.
French Gulch*	USCA	Shasta-Trinity	Au, pyr, gal, sph, cpy, sch; qtz, calc	39.	-	1300.	Oesterling and others, 1964; Averill, 1933; Albers, 1961; Logan, 1926.
Fryer's Creek	AUVC	Castlemaine-Chewton	-	6.6	-	39.	Thomas, 1953b.
Gabriels Gully	NZLD	Otago	-	7.9	-	4.5	Williams, 1974b.
Gambetta and Arkansas Travelers*	USCA	Madera	-	55.	-	23.	McLaughlin and Bradley, 1916; Logan, 1950; MRDS No. M022224.
Gebeit	SUDN	Northern Red Sea Hills	Au, pyr, apy; qtz	24.	-	170.	El Boushiand Ismail, 1972.
Gem	USCA	Kern	-	18.	-	2.4	Tucker 1929; Tucker, 1934.
Gem Olive*	USCA	Kern	-	41.	-	18.	Brown, 1916a; Tucker, 1940.
German Bar	USCA	Nevada	Au, apy; qtz	16.	-	18.	Ferguson and Gannett, 1932; McCulloch and others, 1964; Averill, 1942; MRDS No. M021683.
Giant King Quartz	USCA	Nevada	Au, pyr, cpy, gal; qtz	15.	-	2.5	McCulloch and others, 1964; MRDS No. C011737.
Gibralter	USCA	Siskiyou	-	28.	-	27.	Oesterling and others, 1964.
Gladestone	USCA	Shasta	Au, pyr, gal, sph, apy; qtz	16.	-	390.	Hotz, 1971, Lydon and O'Brien, 1974.
Glencoe - Woodhouse*	USCA	Calaveras	Au, sulf, gal; qtz, calc	12.	-	9.2	Logan and Franke, 1936; Clark and Lydon, 1962.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Globe-Ralston*	USCA	Trinity	Au, pyr, cpy, apy; qtz, chl	15.	3.5	390	Peters, 1983; Hotz, 1971.
Gold Point	USCA	Sierra	-	16.	-	13.0	McCulloch and others, 1964; MRDS No. X025561.
Gold Reef	USCA	Siskiyou	Au, pyr; qtz	4.5	-	0.82	Oesterling and others, 1964.
Gold River	CNNS	Lunenburg	-	9.3	-	26.	Girroir, 1960; Malcolm, 1929.
Golden Chariet	USCA	San Diego	Au, apy, po, petz, tel; qtz, calc	79.	-	15.	Donnelly, 1934.
Golden Eagle	USCA	Siskiyou	-	23.	-	64.	Oesterling and others, 1964; Hotz, 1971.
Golden Jubilee	USCA	Trinity	Au, syl, pyr, gal; qtz	11	-	20	Oesterling and others, 1964; Hotz, 1971.
Golden Wedge	USOR	Josephine	Au, pyr; qtz, gra	25.	-	3.0	Brooks and Ramp, 1968.
Golden-Eldorado*	USCA	Sierra	Au, apy, pyr, sph, gal, teth; qtz, carb, mar	26.	-	33.	Ferguson and Gannett, 1932; Averill, 1942; Logan, 1929; MRDS No. X025451.
Goldenville	CNNS	Guysborough	Au, po, apy, pyr, cpy, sph, gal, wolf, sch; qtz, biot, musc, ank, calc, chl	12.	-	550.	Girroir, 1960; Malcolm, 1929.
Grand Victory	USCA	El Dorado	Au, pyr, apy, stib; qtz	3.4	-	110.	Logan, 1938; Clark and Carlson, 1956; MRDS No. C008244.
Granite Hill	USOR	Josephine	Au, pyr, cpy, gal; qtz	8.2	-	14.	Brooks and Ramp, 1968.
Granite King -Live Oak*	USCA	Mariposa	Au, pyr, gal, sph; qtz	8.5	3.4	8.2	Bowen and Gray, 1957; MRDS Nos. M009809.
Granite Mountain	USCA	San Diego	-	5.2	-	0.44	Weber, 1963.
Grant	USAK	Fairbanks	-	30.	-	0.5	Eberlein and others, 1977.
Grass Valley*	USCA	Nevada	Au, cpy, pyr, sph, gal, apy, stib, tell, po, mag, sch; qtz, dol, mar, talc, ank, calc	16.	-	26,000.	Eric, 1948; Goodwin, 1957; Crawford, 1894; MacBoyle, 1919; Johnston, 1940; Hobson and Wiltsee, 1893; Crawford, 1896; Clark, 1970

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
							Logan, 1930b; MRDS Nos. CO11476, CO11134, CO11507, CO11088, CO11267, CO11247 CO11100, CO11489, CO11230, CO11443, CO11316, CO11284, CO11320, CO11502, CO10909, CO10970, CO10971, XO24328, CO10975, CO11334, CO11034, CO10978.
Green Excelsior*	USCA	Nevada	Au, mag, apy, pyr, sph; qtz, tour	24.	-	0.82	Logan, 1924; MacBoyle, 1918; McCulloch, and others, 1964; Wisker, 1936; MRDS Nos. CO12007, CO12001.
Greenback*	USOR	Josephine	Au, cpy, pyr, apy, rh, tell; qtz	13.	-	45.	Brooks and Ramp, 1968; Hotz, 1971.
Guadalupe	USCA	Mariposa	-	38.	-	0.075	Bowen and Gray, 1957.
Gwynne*	USCA	Kern	Au, apy, sch, marc; qtz	39.	-	27.	Tucker and others, 1949; Tucker, 1934; Brown, 1916a.
Gympie Goldfield	AUQL	-	Au, pyr, gal, sph, cpy, hes; qtz, calc	28.	-	3800.	Queensland Department of Mines, 1953; McLeod and others, 1966; Murray, 1975.
Hall Creek*	CNBC	Dominion Mt.	Au, pyr, apy, po; qtz, calc	18.	1.7	11.	MINFILE Nos. 82F/SW182, 82F/SW181, 82F/SW183.
Ham & Birney	USCA	Tuolumne	-	9.8	-	1.6	Logan, 1928, 1949; Tucker, 1915c.
Harriet	CNBC	Dominion Mt.	Au, pyr; qtz, chl	72.	12.	0.14	MINFILE No. 82F/SW188.
Harrigan Cove	CNNS	Halifax	-	19.	-	13.	Girroir, 1960; Malcolm, 1929.
Hathaway	USCA	Siskiyou	-	22.	-	4.9	Hotz, 1971; Averill, 1935.
Hazel	USCA	Siskiyou	-	51.	-	23.	Oesterling and others, 1964; Hotz, 1971.
Henry Ford	USAK	Livengood	-	49.	-	1.5	Hill, 1933.
Herman	USCA	Placer	Au, pyr, gal; qtz	7.5	-	400.	Logan, 1936; Waring, 1917; MRDS No. MO21888.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Hi-Yu	USAK	Livengood	Au, stib, gal, apy, pyr, sph; qtz	50.	-	7.4	Eberlein and others, 1977.
Hirst-Chichagof*	USAK	Sitka	Au, apy, pyr, apy, sph, gal, cpy; qtz, calc	19.	5.9	2000.	Reed and Coats, 1941; EM&J Mining Activity Digest, 1983, v. 9, No. 14, p. 3; Mining Engineers, 1985, v. 37, No. 4, p. 304.
Homestake-McCarty*	USAK	Livengood	Au, jam, stib, apy, sph; qtz?	35	-	5.6	Eberlein and others, 1977.
Hornitos*	USCA	Mariposa	Au, pyr, gal, sph, cpy; qtz?	7.1	3.9	120.	Bowen and Gray, 1957; MRDS Nos. M009446, M009441, M009444.
Horseshoe I	USCA	Mariposa	Au, pyr, cpy, apy, gal,	42.	10.	.48	Bowen and Gray, 1957; MRDS No. M009480.
Hull-Duleek*	USCA	Tuolumne	-	18.	-	3.2	Hyndman and others, 1983.
Ibex	USAK	Juneau	Au, po, sph, cpy, apy, gal, teth, pygr, Ag, stib; qtz, calc	4.8	0.21	160.	Wells and others, 1986.
Iconoclast	USCA	Kern	Au; qtz, talc, ser	25.	-	.36	Tucker, 1940; Brown, 1916a.
Indian Path Mine	CNNS	Lunenburg	Au, sph, gal, apy, pyr	5.	-	.3	Girroir, 1960.
Invincible lode	NZLD	Otago	Au, pyr; qtz	19.	-	12.	Williams, 1974b.
Isaac's Harbour	CNNS	Guysborough	-	25.	-	49.	Girroir, 1960.
Jacksonville*	USCA	Tuolumne	Au, pyr; qtz	3.4	-	150.	Logan, 1928, 1949; Tucker, 1915c; Julihn and Horton, 1940.
Jamestown*	USCA	Tuolumne	Au, pyr, Ag, tel; qtz, ank, mar, talc, ser	6.2	2.9	90,000.	Clark, 1970; Logan, 1949; 1928; Tucker, 1915c; Julihn and Horton, 1940; Allgood and others, 1985; Dohms and others, 1984.
Joe Walker	USCA	Kern	Au, pyr, apy; qtz	40.	-	23.	Tucker and others, 1949; Tucker and Sampson, 1933; Goodyear, 1888.
Jualin	USAK	Juneau	Au, pyr, cpy, gal, sph; qtz, carb	20	7.1	75.	Wells and others, 1986.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Jubilee	NZLD	Wairau River	-	11.	-	3.4	Williams, 1974b.
Jubilee-New Jubilee*	AUVC	Scarsdale-Berringa	-	12.	-	360.	Bowen and Whiting, 1975.
Julian-Banner*	USCA	San Diego	Au, apy, po, pyr, petz; qtz, biot, ser, tour	79.	-	58.	Donnelly, 1934.
Jumbo	USCA	Shasta	-	15.	-	0.4	Lydon and O'Brien, 1974.
K.C.	USCA	Siskiyou	-	31.	-	6.3	Oesterling and others, 1964.
Kanaka	USCA	Tuolumne	-	3.4	-	38.	Hyndman and others, 1983.
Kelsey*	USCA	El Dorado	Au, pyr, gal; qtz, ank	3.6	-	43.	Logan, 1938; Clark and Carlson, 1956; MRDS No. C007866.
Kelsey North*	USCA	El Dorado	Au; qtz, mar	19.	-	39.	Clark and Carlson, 1956; Logan, 1938; Tucker, 1919; MRDS Nos. C007822, C007792.
Kemptville	CNNS	Yarmouth	-	18.	-	3.1	Girroir, 1960.
Kensington-Comet*	USAK	Juneau	Au, pyr, cpy, apy, gal; qtz, carb, chl, ep	6.7	-	520.	Wells and others, 1986.
Killag	CNNS	Halifax	-	32.	-	3.5	Girroir, 1960.
Kinsley*	USCA	Mariposa	Au, pyr, gal, sph, teth, tell; qtz	24.	2.4	2,400.	Bowen and Gray, 1957; Clark, 1970; MRDS Nos. M009504, M009495, M009657.
Kotchkor mines	USSR	Ural mountains	Au, apy, pyr, gal, stib; qtz?	9.9	-	4700.	Maclaren, 1908.
Lake Catcha	CNNS	Halifax	-	11.	1.9	33.	Girroir, 1960; Malcolm, 1929.
Lamphear and Moser	USCA	Calaveras	Au, gal; qtz	16.	-	1.1	Logan and Franke, 1936; Clark and Lydon, 1962; MRDS No. M006190.
Lawrence Town	CNNS	Halifax	Au; qtz	18	-	1.5	Girroir, 1960; Malcolm, 1929.
Leipsigate	CNNS	Lunenburg	-	11.	1.9	33.	Girroir, 1960; Malcolm, 1929.
Leviathan	AUVC	Maryborough	-	10.	-	150.	Bowen and Whiting, 1975.
Liberty*	USCA	Siskiyou	Au, pyr; qtz, calc	17.	-	190.	Hotz, 1971; Brown, 1916b.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Little Kingbird	USCA	Yuba	-	12.	-	.63	O'Brien, 1952.
Little Squaw-Summit*	USAK	Chandalar	sph, apy, gal, stib, pyr, cpy; qtz	49.	7.4	18.	Maddren, 1913; DeYoung, 1978; Mosier and Lewis, 1986.
Locarno and Gwynne	USCA	Kern	Au, sch; qtz	15.	-	0.36	Troxel and Morton, 1962; MRDS No. D000947.
Loch Fyne	AUVC	Walhalla-Woods Point	Au, sph, gal; qtz	24.	-	150.	Bowen and Whiting, 1975; Edwards, 1953.
Long Mary-Alice*	USCA	Mariposa	Au, pyr; qtz	18.	-	9.9	Bowen and Gray, 1957.
Long Tunnel*	AUVC	Wahalla-Woods Point	Au, apy, bour, pyr; qtz	32.	-	1400.	Edwards, 1953.
Lord Nelson	AUVC	St. Arnaud	Au, pyr, gal, sph; qtz	16.	-	630.	Bowen and Whiting, 1975.
Lucky Bart	USOR	Jackson	Au, pyr; qtz, calc	24.	-	13.0	Hotz, 1971; Brooks and Ramp, 1968.
Lucky Bart*	USOR	Josephine	Au, pyr, po, apy, bor, sph, gal; qtz, calc	8.8	7.8	26.	Brooks and Ramp, 1968.
Lucky Shot-War Baby*	USAK	Fairbanks	Au, pyr, apy, cpy, sph, teth, gal; qtz	81.	-	50.	Ray, 1933.
Lyell Goldfield*	NZLD	South Island	-	21.	-	140.	Williams, 1974a.
Mabel	USAK	Anchorage	Au, pyr, apy, teth, gal, cpy, sph; qtz	50.	-	3.	Ray, 1933.
Malden*	AUVC	Malden	Au, pyr, apy, cpy, sph, gal, moly, Bi, mad, Sb, stib, po, sch, jam; qtz, calc, dol, gyp	36.	-	1430.	Bowen and Whiting, 1975; Mason and Webb, 1953; Haupt, 1982.
Mammoth	USCA	Kern	Au, pyr, apy, po; qtz	33.	-	140.	Tucker, 1929; Brown, 1916a.
Mariners	AUVC	Maryborough	-	52.	-	24.	Bowen and Whiting, 1975.
Mariposa	USCA	Mariposa	Au, gal, pyr; qtz	11.	-	180.	Bowen and Gray, 1957; MRDS No. M009793, M009772.
Maude and Yellow Girl	AUVC	Glen-Wills-Sunnyside	Au, pyr, apy; qtz, calc, chl	16.	-	21.	Bowen and Whiting, 1975; Crohn, 1953.
Melba Group	USCA	San Diego	Au, pyr, marc; qtz	16.	-	0.36	Weber, 1963.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Midas	USCA	Shasta	-	46.	-	170.	Hotz, 1971; Lydon and O'Brien, 1974.
Mikado	USAK	Chandalar	Au, pyr, apy, sph, gal, stib, cpy; qtz	73.	16.	13.	Maddren, 1913; DeYoung, 1978; Mosier and Lewis, 1986.
Mill Village	CNNS	Queens	-	14.	-	2.1	Girroir, 1960; Malcolm, 1929.
Miller Lake	CNNS	Guysborough	-	14.	-	1.2	Girroir, 1960.
Minto	CNBC	Bridge River	Au, apy, pyr, sph; qtz, calc, mar	6.8	20	81.	MINFILE No. 92J/NE075.
Mizpah	USAK	Livengood	Au, stib, gal, pyr, apy; qtz	57.	-	0.45	Eberlein and others, 1977.
Mohawk	USAK	Fairbanks	Au, apy; qtz	25.	-	26.	Hill, 1933.
Mohawk-Dome View	USAK	Livengood	Au, stib, pyr, apy; qtz	8.2	-	1.3	Eberlein and others, 1977.
Mokelumne Hill*	USCA	Calaveras	Au, pyr, gal; qtz	3.9	-	410.	Clark and Lydon, 1962.
Molega	CNNS	Queens	-	17.	-	64.	Girroir, 1960; Malcolm, 1929.
Montague	CNNS	Halifax	-	18.	-	12.	Anonymous, 1980; Girroir, 1960; Malcolm, 1920.
Moore's Flat*	USCA	Nevada	Au, pyr, gal; qtz	9.2	-	270.	Logan, 1941; MacBoyle, 1919; McCulloch and others, 1964; MRDS Nos. CO11916 CO11933, CO11889, CO11902.
Moose River	CNNS	Halifax	-	5.9	-	140	Girroir, 1960; Malcolm, 1929.
Moosehead	CNNS	Halifax	-	5.8	-	2.5	Girroir, 1960.
Mooseland	CNNS	Halifax	Au; qtz	15.	-	8.0	Girroir, 1960.
Morman Bar	USCA	Mariposa	Au, sulf; qtz	9.6	-	.16	Bowen and Gray, 1957.
Morning Star	USCA	Mariposa	Au, pyr; qtz	22.	3.4	.09	Bowen and Gray, 1957.
Morning Star	AUVC	Walhalla-Woods Point	-	28.	-	690.	Bowen and Whiting, 1975; Edwards, 1953.
Morris Ravine*	USCA	Butte	-	3.4	-	480.	Clark, 1970.
Mount Buckingham-							

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Mount Bullion*	USCA	Mariposa	Au, pyr, gal, sph; teth; qtz, ank, mar	11.	2.7	680.	Bowen and Gray, 1957; MRDS Nos. M009778, M009770, M009599 M009781, M009598, M0021625, M009593.
Mount Gaines*	USCA	Mariposa	Au, gal, sph, cpy, apy, prou, arg; qtz, bar, chl	17.	-	280.	Bowen and Gray, 1957; MRDS No. M009415.
Mount Pleasant	USCA	El Dorado	Au, pyr, gal, sph, cpy; qtz?	8.9	-	210.	Clark and Carlson, 1956; Logan, 1926, 1938; MRDS No. C008527.
Mount Shasta	USCA	Shasta	Au, pyr, moly; calc, qtz	71.	-	3.8	Hotz, 1971; Lydon and O'Brien, 1974.
Mount Uniacke	CNNS	Hants	-	16.	-	55.	Girroir, 1960; Malcolm, 1929.
Mount Vernon	USCA	Siskiyou	Au, pyr, gal, sph	10.	-	1.6	Averill, 1935.
Mountain King	USCA	Mariposa	-	7.5	3.8	200.	Bowen and Gray, 1957.
Nashville*	USCA	El Dorado	Au, pyr; qtz	3.9	-	730.	Clark and Carlson, 1956; Logan, 1938; Tucker, 1919; MRDS Nos. C007632, C007680.
National	USCA	Shasta	Au, pyr; qtz	36.	-	8.2	Hotz, 1971; Lydon and O'Brien, 1974.
New Bendigo	AUVC	St. Arnaud	Au, pyr, gal, sph	16.	-	69.	Bowen and Whiting, 1975.
New Era-Rowe*	AUVC	Castlemaine-Chewton	-	5.7	-	180.	Bowen and Whiting, 1975; Edwards, 1953.
Nimrod	AUVC	"	-	26.	-	20.	Thomas, 1953b.
Noble	USCA	San Diego	Au, Ag, pyr, gal, tel; qtz	23.	-	3.9	Weber, 1963.
North Galice*	USOR	Josephine	Au, pyr, cpy, po, gal, moly; qtz, bar, chl, ser, calc	12.	-	230.	Hotz, 1971; Brooks and Ramp, 1968.
North Kinsley*	USCA	Mariposa	Au, gal, cpy, pyr, teth, apy; qtz	18.	29.	17.	Clark, 1970; Bowen and Gray, 1957; MRDS Nos. M009642, M009644.
North Murphy*	USCA	Calaveras	Au, pyr, gal; qtz, talc	24.	-	39.	Clark and Lydon, 1962.
North Star	USAK	Livengood		4.7	-	1.9	Hill, 1933.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Nuggetty	AUVC	Castlemaine-Chewton	-	24.	-	20.	Thomas, 1953b.
O'Connor	AUVC	Lauriston	-	27.	-	44.	Bowen and Whiting, 1975.
Oakes & Reese*	USCA	Mariposa	Au, apy; qtz, mar	73.	-	12.	Bowen and Gray, 1957; MRDS Nos. MO21617, WO24147.
Old Diggings*	USCA	Shasta	Au, pyr; qtz	22.	-	260.	Hotz, 1971; Lydon and O'Brien, 1974; Oesterling and others, 1964; Averill, 1933.
Oldham	CNNS	Halifax	-	24.	-	110.	Girroir, 1960.
Ophir*	USCA	Placer	Au, pyr, cpy, gal, arg; qtz	11.	-	610.	Logan, 1936; Goodwin, 1957; Eric, 1948; Waring, 1917; Lindgren, 1894; Crawford, 1896; MRDS Nos. CO12178, CO12201, MO21836, CO12189, CO12098, CO12200, XO24418.
Oregon Belle	USOR	Jackson	-	21.	-	18.	Hotz, 1971; Brooks and Ramp, 1968.
Oriental	AUVC	Harrietville-Bright	-	14.	-	130.	Bowen & Whiting, 1975; Kenny, 1953.
Oriflamme	USCA	San Diego	Au, apy, po, petz, te; qtz calc	16.	-	2.3	Weber, 1963.
Oro Grande-Buena Vista	USCA	Shasta	Au, pyr, cpy, sch; qtz	9.1	-	2.4	Lydon and O'Brien, 1974.
Oturehua field	NZLD	Lake	Au, pyr, apy, sph, bour; qtz?	58.	-	2.1	Williams, 1974b.
Ovens	CNNS	Lunenburg	-	22.	-	.49	Girroir, 1960; Malcolm, 1929.
Oya	JAPN	Miyagi Prefecture	Au, apy, po, cpy, tellurobismuthite; qtz	7.4	2.1	1800.	Grant 1951; Imai, 1978.
Paloma-Gwin*	USCA	Calaveras	Au, pyr, apy, cpy, gal, sph; qtz, calc, alb, ser	9.9	-	990.	Clark and Lydon, 1962; MRDS No. MO05861.
Paparoa Range*	NZLD	South Island	Au, cpy; qtz?	15.	-	4.0	Williams, 1974a.
Patrick Consolidated	USCA	Placer	-	9.3	-	25.	Logan, 1936; Waring, 1919; MRDS No. CO12714.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Penryn*	USCA	Placer	-	18.	-	120.	Logan, 1936; Goodwin, 1957; Averill and Norman, 1961.
Peterson Lake	USAK	Juneau	Au, apy; qtz	12.	-	0.56	Wells and others, 1986.
Phoenix	USCA	Sierra	Au, pyr, gal, cpy; qtz	10.	-	2.7	MacBoyle, 1920; Averill, 1942.
Pipe Stem	CNBC	Coquihalla	Au, po, apy, cpy; qtz	5.7	0.8	1.5	MINFILE No. 92H/NW011.
Placerville*	USCA	El Dorado	Au, apy, pyr; qtz, talc, mar	12.	-	210.	Clark and Carlson, 1956; MRDS Nos. C008127, C008129.
Pleasant River	CNNS	Lunenburg	-	7.4	-	0.46	Girroir, 1960; Malcolm, 1929.
Plumbago	USCA	Sierra	Au, apy, pyr, gal, teth; qtz, mar	14.	-	270.	McCulloch and others, 1964; Ferguson and Gannett 1932; Averill, 1942; Logan, 1929; MRDS No. X025371.
Porto Rico	CNBC	Dominion Mt.	Au, pyr; qtz	31.	8.1	5.7	MINFILE No. 82F/SW189.
Pride of the West	USCA	San Diego		60.	-	.08	Weber, 1963.
Pyramid	USCA	Mariposa	Au, pyr, gal, sph; qtz	27.	3.8	11.	Bowen and Gray, 1957.
Rainbow	USCA	Butte		42.	-	0.33	Logan, 1930a.
Rainbow	USOR	Josephine	Au, pyr, apy, cpy; qtz, calc	18.	-	2.3	Hotz, 1971; Brooks and Ramp, 1968.
Ranch	USCA	Calaveras	Au, pyr; qtz	4.1	-	3.6	Julihn and Horton, 1938; Clark and Lydon, 1962; Logan and Franke, 1936; MRDS No. M005763.
Ravenswood	NZLD	Cape Jackson	-	4.5	-	0.9	Williams, 1974b.
Red Cloud	USCA	Mariposa	Au, pyr, qtz	50.	-	45.	Bowen and Gray, 1957.
Reed Flat	USCA	Mariposa	-	12.	3.1	0.78	Bowen and Gray, 1957.
Reefton Goldfield*	NZLD	South Island	Au, pyr, apy, stib, cpy, moly, gal; qtz, calc	18.	-	3600.	Williams, 1974a.
Renfrew	CNNS	Hants	-	27.	-	61.	Girroir, 1960; Malcolm, 1929.
Rich	USCA	Mariposa	-	16	17	0.16	Bowen and Gray, 1957.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Rich Gulch	USCA	Plumas	Au, pyr; qtz	2.9	-	17,000	Northern Miner, Mar. 10, 1986, v. 71, No. 52, p.33.
Rich Gulch*	USCA	Calaveras	Au, pyr, gal, cpy, stib; qtz	7.2	-	82.	Clark and Lydon, 1962; Logan and Franke, 1936; MRDS No. M006223.
Rindge No. 1	USCA	Calaveras	-	4.1	-	2.0	Logan and Franke, 1936; Clark and Lydon, 1962; MRDS No. M006478.
Robertson	USOR	Josephine	Au, pyr, petz; qtz, ep, calc	48.	-	4.5	Hotz, 1971; Brooks and Ramp, 1968.
Rose Thistle and Shamrock	AUVC	Harrietville-Bright	-	21.	-	100.	Bowen and Whiting, 1975; Kenny, 1953.
Rose of Denmark	AUVC	Walhalla-Woods Point	Au, sph, gal; qtz	12.	-	150.	Bowen and Whiting, 1975; Edwards, 1953.
Royal Mountain King*	USCA	Calaveras	Au, pyr, gal, sph; qtz, calc, ank, ser	2.9	-	9800.	Clark and Lydon, 1962; MRDS Nos. M006010, M006009.
Rublin	USCA	Placer	-	9.9	-	0.19	Logan, 1936, Waring, 1919; MRDS No. X024470.
Ruth Pierce	USCA	Mariposa	-	19.	-	35.	Julihn and Horton, 1940.
Ryan Group	USAK	Fairbanks	Au, apy, stib; qtz	16.	-	18.	Eberlein and others, 1977.
Sailor's Gully	AUVC	Castlemaine-Chewton	-	8.4	-	42.	Thomas, 1953b.
Salmon River	CNNS	Halifax	-	12	-	110.	Girroir, 1960; Malcolm, 1929.
Salsigne	FRNC	Montagne Noire	Au, apy, pyr, cpy, po, wolf, sch, bism, Bi, guan; qtz, dol, sid, biot	11,	-	4500,	Reynolds, 1965.
Sambas	AUVC	Harrietville-Bright	-	36,	-	35,	Bowen and Whiting, 1975; Kenny, 1953.
Sanford	USAK	Fairbanks	-	2.5	-	0.14	Hill, 1933.
Schley-Lucky Chuck*	USCA	San Diego	Au, apy, pyr; qtz	6.6	-	0.16	Weber, 1963.
Scott Bar	USCA	Siskiyou	-	18.	-	3.4	Hotz, 1971; Oesterling and others, 1964.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Seal Harbour	CNNS	Guyborough	Au, apy, gal; qtz, calc	2.6	-	400.	Girroir, 1960; Malcolm, 1929.
Second Relief	CNBC	Dominion Mt.	Au, pyr, cpy, moly; qtz, mag	15.	4.2	210.	MINFILE No. 82F/SW187.
Sheep Ranch*	USCA	Calaveras	Au, pyr, cpy, gal, sph; qtz	12.	-	530.	Clark and Lydon, 1962.
Shenandoah					-		
Sliger	USCA	El Dorado	Au, pyr, apy; qtz, ank	8.6	-	320.	Clark and Carlson, 1956; Logan, 1938; MRDS No. C007617.
Smith Heid-Montana Basin*	USAK	Juneau	Au, pyr, gal, cpy; qtz	17.	1.5	0.22	Wells and others, 1986.
Soo	USAK	Livengood	Au, stib, apy, teth, gal; qtz	90.	-	2.7	Eberlein and others, 1977.
Soulsbyville*	USCA	Tuolumne	Au, pyr, gal, sph; qtz	24.	-	1200.	Logan, 1928, 1949; Tucker, 1915c.
South Uniacke	CNNS	Halifax, Hants	-	1.8	-	11.	Girroir, 1960; Malcolm, 1929.
Spring Gully	AUVC	Castlemaine-Chewton	-	11.	-	170.	Bowen and Whiting, 1975; Kenny, 1953.
Stonewall	USCA	San Diego	Au, apy, po, petz; qtz	20.	-	150.	Weber, 1963; Donnelly, 1934.
Sultan	AUVC	Blackwood	-	26.	-	83.	Bowen and Whiting, 1975.
Surf Inlet	CNBC	-	Au, pyr, cpy; qtz, ank	13.	6.8	960.	Barr, 1980; MINFILE No. 103HG027.
Sutter Creek*	USCA	Amador	Au, pyr, sph, cpy, gal; qtz	16.	-	8100.	Carlson and Clark, 1954; Clark, 1970; Knopf, 1929; MRDS No. M005088.
Sylvanite	USOR	Jackson	Au, gal, cpy, pyr; qtz, calc	9.8	-	63.	Hotz, 1971, Brooks and Ramp, 1968.
Tangier	CNNS	Halifax	Au, po, apy, pyr, cpy; qtz, alb, ank, calc, chl	18.	-	45.	Girroir, 1960; Malcolm, 1929; Newhouse, 1936.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
Taylor	USCA	El Dorado	-	5.8	-	150.	Clark and Carlson, 1956; Logan, 1938; MRDS No. C007980.
Tipperary	NZLD	Lake-Macetown	Au, pyr, apy; qtz	26.	-	220.	Williams, 1974b.
Toombon	AUVC	Walhalla-Woods Point	-	23.	-	63.	Bowen and Whiting, 1975; Edwards, 1953.
Treadwell	USAK	Juneau	Au, pyr, po, mag, moly, cpy, gal, sph, teth, As, real, orp, sch; qtz, calc, alb, rut	3.8	-	29,000	Wells and others, 1986; Berg and others, 1981.
Truscott	USCA	Shasta	Au, pyr; qtz	21.	-	5.8	Lydon and O'Brien, 1974.
Tuolumne River*	USCA	Tuolumne	-	15	1.0	32.	Hyndman and others, 1983.
Ultima Chanca	USCA	Tuolumne	-	8.1	-	0.49	Hyndman and others 1983.
Uncle Sam	USCA	Shasta	-	31.	-	49.	Hotz, 1971.
Upper Seal Harbour	CNNS	Guysborough	-	4.5	-	400	Girroir, 1960; Malcolm, 1929.
Upper Stewiake	CNNS	Colchester	-	8.4	-	.16	Girroir, 1960.
Valley View	USCA	Kern	Au, sch; qtz	33	-	1.3	Tucker and others, 1949; Troxel and Morton, 1962.
Vogler's Cove	CNNS	Lunenburg	-	7.4	-	.18	Girroir, 1960; Malcolm, 1929.
Ward	CNBC	Coquihalla	-	33	-	.14	MINFILE No. 92H/NW015.
Washington	USCA	Mariposa	Au, pyr, cpy; qtz, ank, mar	6.5	4.8	550.	Bowen and Gray, 1957; MRDS M009422.
Wattle Gully	AUVC	Castlemaine-Chewton	-	10	-	1000	Bowen and Whiting, 1975; Thomas, 1953b.
Warrington	USCA	Kern	Au, pyr, apy; qtz	22.	-	3.4	Tucker and Sampson, 1933.
Waverley	CNNS	Halifax	-	15	-	150	Girroir 1960; Malcolm, 1929.
Wayside	CNBC	Bridge River	Au, apy, cpy; alb, carb, mar	3.6	.67	39	MINFILE No. 92J/NE030.
West Gore	CNNS	Hants	Au, stib, pyr, apy	47.	-	4.7	Girroir, 1960; Malcolm, 1929.

NAME	COUNTRY	AREA	MINERALS	AU	AG	MT	REFERENCES
West Meadow*	USCA	Tuolumne	Au, pyr, gal, cpy; qtz	20.	-	82.	Julihn and Horton, 1940.
Westland*	NZLD	South Island	Au, pyr, cpy, bour; qtz	36.	-	2.4	Williams, 1974a.
Whiteburn	CNNS	Queens	-	37.	-	10.	Girroir, 1960.
Whitlock East*	USCA	Mariposa	Au, pry, gal; qtz	9.7	-	9.8	Bowen and Gray, 1957; MRDS No. M009719.
Whitlock West*	USCA	Mariposa	Au, apy, pyr, cpy, teth, gal; qtz, calc	14.	3.5	190.	Bowen and Gray, 1957; MRDS Nos. M009729, M009738, M009732, M009698, W024174, M009736.
Wilshire-Bishop Creek	USCA	Inyo	Au, pyr, po, apy, cpy, sph	11.		130.	Tucker and Sampson, 1938.
Yankee Hill*	USCA	Butte	Au, sulf, cpy; qtz	11.	-	26.	Logan, 1930a, Waring, 1915, MRDS Nos. M023881, M023899.
Zantgraf	USCA	El Dorado	Au, pyr, gal; qtz?	12.	-	120.	Clark and Carlson, 1956; Logan, 1938; MRDS No. C007316.
Zeila*	USCA	Amador	-	6.5	-	1200.	Carlson and Clark, 1954; Hanks, 1886; Irelan, 1888, 1890; MRDS M005125.

Table 4A. Low-sulfide Au-quartz vein deposits sorted by deposit name; for each deposit is listed mines, etc., which are members of the deposit for the purposes of grade and tonage modeling; mines are listed in alphabetic order followed by deposit name of which it is a member in Table 4B which follows.

DEPOSIT	MINE
AVG-Sanderson, USCA	AVG
AVG-Sanderson, USCA	Clary
AVG-Sanderson, USCA	Montana
AVG-Sanderson, USCA	Old Dan Reynolds
AVG-Sanderson, USCA	Pay Day
AVG-Sanderson, USCA	Petticoat
AVG-Sanderson, USCA	Poe
AVG-Sanderson, USCA	Sanderson
AVG-Sanderson, USCA	Standy By
Alaska-Juneau, USAK	Alaska-Juneau
Alaska-Juneau, USAK	Perseverance
Alex Hill-Mad Kiss, GUYN	Alex Hill
Alex Hill-Mad Kiss, GUYN	Mad Kiss
Alleghany East, USCA	Brush
Alleghany East, USCA	Del Norte
Alleghany East, USCA	Diadem
Alleghany East, USCA	Kate Hardy
Alleghany West, USCA	Alaska
Alleghany West, USCA	Bowman
Alleghany West, USCA	Oriental
Amador City, USCA	Boston-Esperanza
Amador City, USCA	Bunker Hill
Amador City, USCA	California Group
Amador City, USCA	Fremont-Grover
Amador City, USCA	Italian
Amador City, USCA	Keystone
Amador City, USCA	Original Amador
Amador City, USCA	Treasure
Angels Camp-Carson Hill, USCA	Adelia
Angels Camp-Carson Hill, USCA	Altaville
Angels Camp-Carson Hill, USCA	Angels
Angels Camp-Carson Hill, USCA	Angels Deep
Angels Camp-Carson Hill, USCA	Benson
Angels Camp-Carson Hill, USCA	Big Spring
Angels Camp-Carson Hill, USCA	Bolitha
Angels Camp-Carson Hill, USCA	Bruner
Angels Camp-Carson Hill, USCA	Cherokee
Angels Camp-Carson Hill, USCA	Clifton Ranch
Angels Camp-Carson Hill, USCA	Columbia
Angels Camp-Carson Hill, USCA	Curiosity
Angels Camp-Carson Hill, USCA	Curtis

Angels Camp-Carson Hill, USCA	Dead Horse
Angels Camp-Carson Hill, USCA	Demarest
Angels Camp-Carson Hill, USCA	Etna King
Angels Camp-Carson Hill, USCA	Evening Star
Angels Camp-Carson Hill, USCA	Fazzi
Angels Camp-Carson Hill, USCA	Foster
Angels Camp-Carson Hill, USCA	Ghost
Angels Camp-Carson Hill, USCA	Gold Cliff
Angels Camp-Carson Hill, USCA	Gold Hill
Angels Camp-Carson Hill, USCA	Gold Hill
Angels Camp-Carson Hill, USCA	Golden Star
Angels Camp-Carson Hill, USCA	Great Western
Angels Camp-Carson Hill, USCA	Greenstone
Angels Camp-Carson Hill, USCA	Hicks
Angels Camp-Carson Hill, USCA	Holy Ghost
Angels Camp-Carson Hill, USCA	Keystone
Angels Camp-Carson Hill, USCA	Last Chance
Angels Camp-Carson Hill, USCA	Lightner
Angels Camp-Carson Hill, USCA	Lindsey
Angels Camp-Carson Hill, USCA	Longworth
Angels Camp-Carson Hill, USCA	Madison
Angels Camp-Carson Hill, USCA	Maltman
Angels Camp-Carson Hill, USCA	Marble Fay
Angels Camp-Carson Hill, USCA	Missouri
Angels Camp-Carson Hill, USCA	Mohawk
Angels Camp-Carson Hill, USCA	Mother Lode Central
Angels Camp-Carson Hill, USCA	North Star
Angels Camp-Carson Hill, USCA	Nugget
Angels Camp-Carson Hill, USCA	Oriole Consolidated
Angels Camp-Carson Hill, USCA	Osborn
Angels Camp-Carson Hill, USCA	Panuga
Angels Camp-Carson Hill, USCA	Parnell
Angels Camp-Carson Hill, USCA	Pure Quill
Angels Camp-Carson Hill, USCA	Red Jay
Angels Camp-Carson Hill, USCA	Reisler Ranch
Angels Camp-Carson Hill, USCA	Romaggi & Costa
Angels Camp-Carson Hill, USCA	Romaggi & Family
Angels Camp-Carson Hill, USCA	Russell
Angels Camp-Carson Hill, USCA	Sacramento
Angels Camp-Carson Hill, USCA	Safe Deposit
Angels Camp-Carson Hill, USCA	Sultana
Angels Camp-Carson Hill, USCA	Tollgate
Angels Camp-Carson Hill, USCA	Triple Lode
Angels Camp-Carson Hill, USCA	Utica
Angels Camp-Carson Hill, USCA	Wagon Rut
Angels Camp-Carson Hill, USCA	Waterman
Angels Camp-Carson Hill, USCA	Yellowstone
Ashland, USOR	Ashland
Ashland, USOR	Burdie Group
Ashland, USOR	Double Jack
Ashland, USOR	Shorty Hope

Aurora Borealis-Bessie, USAK	Alaska-Washington
Aurora Borealis-Bessie, USAK	Aurora Borealis
Aurora Borealis-Bessie, USAK	Bessie
Bagby, USCA	Pine Tree and Josephine
Bagby, USCA	Queen Specimen
Bagby, USCA	River Tunnel
Bagby North, USCA	Live Oak and Governor
Bagby North, USCA	Merced River
Bagby North, USCA	Red Bank
Bagby North, USCA	Specimen
Ballarat, AUVC	Band of Hope and Albion Consolidated
Ballarat, AUVC	Black Hill
Ballarat, AUVC	Britannia United
Ballarat, AUVC	Central Plateau
Ballarat, AUVC	Great Northern
Ballarat, AUVC	Last Chance United
Ballarat, AUVC	Llanberris
Ballarat, AUVC	New Kohinorr
Ballarat, AUVC	New Normandy
Ballarat, AUVC	North Woah Hawp
Ballarat, AUVC	South Star
Ballarat, AUVC	Speedwell
Ballarat, AUVC	Star of the East
Ballarat, AUVC	Sulieman Pasha
Ballarat, AUVC	Victoria United
Bear Valley, USCA	Cotton Creek
Bear Valley, USCA	Horseshoe II
Bear Valley, USCA	Juniper
Bear Valley, USCA	Oso
Bear Valley, USCA	Sunset I Group
Bear Valley, USCA	Yellowstone
Bear Valley South, USCA	Doleman
Bear Valley South, USCA	Elizabeth
Bear Valley South, USCA	Gold Bring
Bear Valley South, USCA	Mexican I
Bear Valley South, USCA	Pendola Garden
Bear Valley South, USCA	Schroeder
Beldon, USCA	Beldon
Beldon, USCA	Black Prince
Bendigo, AUVC	Anglo German Co
Bendigo, AUVC	Ballerstedt and Co.
Bendigo, AUVC	Belmont and Saxby
Bendigo, AUVC	Brennan and Co.
Bendigo, AUVC	Carlisle
Bendigo, AUVC	Catherine Reef United
Bendigo, AUVC	Central Nell Gwynne
Bendigo, AUVC	Central Red White and Blue

Bendigo, AUVC	Cinderella
Bendigo, AUVC	Clarence United
Bendigo, AUVC	Collman and Tacchi
Bendigo, AUVC	Confidence Extended
Bendigo, AUVC	Constellation
Bendigo, AUVC	Cornish United
Bendigo, AUVC	Deborah
Bendigo, AUVC	Ellenborough
Bendigo, AUVC	Eureka Extended
Bendigo, AUVC	Fortuna Hustlers
Bendigo, AUVC	Frederick the Great
Bendigo, AUVC	Garden Gulley United
Bendigo, AUVC	Garibaldi
Bendigo, AUVC	Golden Age
Bendigo, AUVC	Golden Fleece Co.
Bendigo, AUVC	Golden Pyke
Bendigo, AUVC	Great Extended Hustlers
Bendigo, AUVC	Great Extended Hustlers Tribute
Bendigo, AUVC	Great Southern Garden Gully
Bendigo, AUVC	Hercules and Energetic
Bendigo, AUVC	Hercules and Energetic East
Bendigo, AUVC	Hustlers No. 1
Bendigo, AUVC	Hustlers Reef
Bendigo, AUVC	Ironbark
Bendigo, AUVC	Johnson's Reef
Bendigo, AUVC	Kochs Pioneer
Bendigo, AUVC	Lansell's 180
Bendigo, AUVC	Lansell's Comet
Bendigo, AUVC	Lansell's North Red White and Blue
Bendigo, AUVC	Lansell's South Red White and Blue Tribute
Bendigo, AUVC	Latham and Watson
Bendigo, AUVC	Lazarus
Bendigo, AUVC	Lazarus No. 1
Bendigo, AUVC	Lord Barkley
Bendigo, AUVC	Neill and Co.
Bendigo, AUVC	New Argus
Bendigo, AUVC	New Chum Consolidated
Bendigo, AUVC	New Chum Gold-Fields
Bendigo, AUVC	New Chum Railway
Bendigo, AUVC	New Chum United
Bendigo, AUVC	New Chum and Victoria
Bendigo, AUVC	New Moon
Bendigo, AUVC	New Red White and Blue Consolidated
Bendigo, AUVC	North Deborah
Bendigo, AUVC	North Garden Gully
Bendigo, AUVC	North Johnsons
Bendigo, AUVC	North Old Chum
Bendigo, AUVC	North Shenandoah
Bendigo, AUVC	Old Chum
Bendigo, AUVC	Old Whip Co.
Bendigo, AUVC	Pearl
Bendigo, AUVC	Prince of Wales
Bendigo, AUVC	Princess Dagmar
Bendigo, AUVC	Rose of Denmark

Bendigo, AUVC	Sadowa
Bendigo, AUVC	Sea Amalgamated
Bendigo, AUVC	Sherandoah
Bendigo, AUVC	South Devonshire
Bendigo, AUVC	South New Moon
Bendigo, AUVC	South St. Mungo
Bendigo, AUVC	Specimen Hill
Bendigo, AUVC	St. Mungo
Bendigo, AUVC	Suffolk United
Bendigo, AUVC	Thorp and Co
Bendigo, AUVC	Ulster United
Bendigo, AUVC	United Devonshire
Bendigo, AUVC	United Hustlers and Redan
Bendigo, AUVC	Unity
Bendigo, AUVC	Victoria Consolidated
Bendigo, AUVC	Victoria Proprietary
Bendigo, AUVC	Victoria Quartz
Bendigo, AUVC	Victoria Reef
Bendigo, AUVC	Victory and Pandora
Bendigo, AUVC	Virginia
Bendigo, AUVC	Windmill Hill
Big Oak Flat, USCA	Eureka and Mississippi
Big Oak Flat, USCA	Longfellow
Big Oak Flat, USCA	Mack
Big Oak Flat, USCA	Mohrman
Big Oak Flat, USCA	Morman
Big Oak Flat, USCA	Nonpareil
Birthday-William Fancy, AUVC	Birthday
Birthday-William Fancy, AUVC	Birthday Tunnel
Birthday-William Fancy, AUVC	William Fancy
Black Bear, USCA	Black Bear
Black Bear, USCA	South Black Bear
Black Bear, USCA	Yellow Jacket
Blackstone, USCA	Blackstone
Blackstone, USCA	Buena Vista
Blackstone, USCA	Woodhouse
Bondurant, USCA	Bondurant
Bondurant, USCA	Louisana
Browns Valley, USCA	Cleveland
Browns Valley, USCA	Dannebroge
Browns Valley, USCA	Hibbert and Barris
Browns Valley, USCA	Jefferson
Browns Valley, USCA	Pennsylvania
Browns Valley, USCA	Too Handy

Buller-Mokihinui, NZLD	Britannia
Buller-Mokihinui, NZLD	Great Republic
Buller-Mokihinui, NZLD	Red Queen
Buller-Mokihinui, NZLD	Swastika
Caribou-Aurum, CNBC	Aurum
Caribou-Aurum, CNBC	Caribou Gold Quartz
Caribou-Aurum, CNBC	Mosquito Creek
Chinese Camp, USCA	Bella Union
Chinese Camp, USCA	Eagle Shawmut
Chinese Camp, USCA	Tarantula
Clunes Goldfield, AUVC	New South Clunes
Clunes Goldfield, AUVC	Port Phillips
Clunes Goldfield, AUVC	South Clunes
Clunes Goldfield, AUVC	Victoria
Colfax, USCA	Big Oak Tree
Colfax, USCA	Rising Sun
Confidence-Lamphere, USCA	Confidence
Confidence-Lamphere, USCA	Lamphere
Coquihalla-Carolin, CNBC	Aurum
Coquihalla-Carolin, CNBC	Carolin
Coquihalla-Carolin, CNBC	Coquihalla
Coulterville, USCA	Adelaide
Coulterville, USCA	Balance
Coulterville, USCA	Black Hill
Coulterville, USCA	Bozeman
Coulterville, USCA	Butte
Coulterville, USCA	Champion I
Coulterville, USCA	Consolidated Eureka II
Coulterville, USCA	Crystal
Coulterville, USCA	Daliah
Coulterville, USCA	Dillion
Coulterville, USCA	Ely
Coulterville, USCA	Gold Coin
Coulterville, USCA	Helena
Coulterville, USCA	Lookout
Coulterville, USCA	Louisa
Coulterville, USCA	Malvina Group
Coulterville, USCA	Margaret
Coulterville, USCA	Mary Harrison
Coulterville, USCA	Midas
Coulterville, USCA	Oro Rico
Coulterville, USCA	Tyro
Coulterville, USCA	Violet
Coulterville, USCA	Virginia

Coulterville South, USCA	Alta
Coulterville South, USCA	Annabelle
Coulterville South, USCA	Black Spider
Coulterville South, USCA	Mountain View II
Coulterville South, USCA	Silver Right
Coulterville South, USCA	Southern Cross
Coulterville South, USCA	Sweetwater I
Coulterville South, USCA	Talc
Cove Mountain, USCA	Big Blue Group
Cove Mountain, USCA	Lady Belle
Cove Mountain, USCA	Nellie Dent and Contact
Dalesford, AUVC	Ajax
Dalesford, AUVC	Ajax Central
Dalesford, AUVC	Ajax North
Dalesford, AUVC	Cornish Co.
Dalesford, AUVC	North Cornish
Dalesford, AUVC	North Nuggety Ajax
Dalesford, AUVC	Rising Sun
Damascus, USCA	Pineer
Damascus, USCA	Rawhide
Damascus, USCA	Southern Cross
Demarest, USCA	Demarest
Demarest, USCA	Illinois
Demarest, USCA	Shotgun
Densmore, USCA	Densmore
Densmore, USCA	Gem
Dorothea, USOR	Dorothea
Dorothea, USOR	Livingston
Dorothea, USOR	Silent Friend
Eagle River-Dividend, USAK	Dividend
Eagle River-Dividend, USAK	E. Pluribus Unum
Early-Sweetwater, USCA	Early
Early-Sweetwater, USCA	Sweetwater II
El Dorado, USCA	Duncan and Adams
El Dorado, USCA	Martinez
El Dorado, USCA	Union
El Portal, USCA	Clearinghouse
El Portal, USCA	East Rutherford
El Portal, USCA	Eureka III
El Portal, USCA	Georgia Point
El Portal, USCA	Gold Star
El Portal, USCA	Hite
El Portal, USCA	Hite Central
El Portal, USCA	Old Timer
El Portal, USCA	Rutherford

El Portal, USCA	South Cranberry
El Portal, USCA	West Rutherford
Eliza-Schroeder, USCA	Eliza
Eliza-Schroeder, USCA	Schroeder
Escondido, USCA	Cleveland-Pacific
Escondido, USCA	Cravath
Escondido, USCA	Oro Fino
Esmeralda, USCA	Bence-South vein
Esmeralda, USCA	Bonehard
Esmeralda, USCA	Busco
Esmeralda, USCA	Center
Esmeralda, USCA	Chaparrel-North Vein
Esmeralda, USCA	Cow Bell
Esmeralda, USCA	Economic
Esmeralda, USCA	Esmeralda and Sunrise
Esmeralda, USCA	Fricot Consolidated
Esmeralda, USCA	K & J
Esmeralda, USCA	Maria
Excelsior-Ryan, USCA	Excelsior
Excelsior-Ryan, USCA	Ryan
Feliciana, USCA	Buffalo
Feliciana, USCA	Feliciana
Feliciana, USCA	Los Parker
Fine Gold, USCA	Fine Gold
Fine Gold, USCA	Good Luck
Fine Gold, USCA	Swiss
Forbstown, USCA	Big Betsy
Forbstown, USCA	Carlisle
Forbstown, USCA	Forbston
Forbstown, USCA	Indian Gulch
Ford, USCA	Fellowcraft
Ford, USCA	Ford (Apex)
Fourth Crossing, USCA	Bachman
Fourth Crossing, USCA	Big Four
Fourth Crossing, USCA	Burgess
Fourth Crossing, USCA	Lucky Boy
Fourth Crossing, USCA	Norma
Fourth Crossing, USCA	Pedro
Fourth Crossing, USCA	Rathgeb
Fourth Crossing, USCA	Specimen
Fourth Crossing, USCA	Thorpe
Fourth Crossing, USCA	Union
French Gulch, USCA	Amy Balch
French Gulch, USCA	Brown Bear

French Gulch, USCA	Brunswick
French Gulch, USCA	Clipper and Snyder Group
French Gulch, USCA	Gambrinus
French Gulch, USCA	Halycon
French Gulch, USCA	Henry Clay
French Gulch, USCA	M & F
French Gulch, USCA	Mad Ox
French Gulch, USCA	Milkmaid and Flanklin
French Gulch, USCA	Montezuma
French Gulch, USCA	Niagara
French Gulch, USCA	Oro Fino
French Gulch, USCA	Philadelphia and Roosevelt
French Gulch, USCA	Scorpion
French Gulch, USCA	St. Jude
French Gulch, USCA	Summit
French Gulch, USCA	Sybil
French Gulch, USCA	Three Sisters
French Gulch, USCA	Washington
French, USCA	French
French, USCA	Lucky Boy
Gambetta and Arkansas Travelers, USCA	Gambetta and Arkansas Travelers
Gambetta and Arkansas Travelers, USCA	Josephine
Gem Olive, USCA	Capstick
Gem Olive, USCA	Gem Olive
Gem, USCA	Democrat Springs
Gem, USCA	Gem
Glencoe-Woodhouse, USCA	Alexander
Glencoe-Woodhouse, USCA	Alpha
Glencoe-Woodhouse, USCA	Banner
Glencoe-Woodhouse, USCA	Bendigo
Glencoe-Woodhouse, USCA	Blue Jay
Glencoe-Woodhouse, USCA	Bull Dog
Glencoe-Woodhouse, USCA	Etna
Glencoe-Woodhouse, USCA	Fidelity
Glencoe-Woodhouse, USCA	Garibaldi
Glencoe-Woodhouse, USCA	Gilded Age
Glencoe-Woodhouse, USCA	Glencoe
Glencoe-Woodhouse, USCA	Good Hope
Glencoe-Woodhouse, USCA	La Verne
Glencoe-Woodhouse, USCA	Mexican
Glencoe-Woodhouse, USCA	San Bruno
Glencoe-Woodhouse, USCA	Woodhouse
Globe-Ralston, USCA	Bailey
Globe-Ralston, USCA	Chloride
Globe-Ralston, USCA	Globe
Globe-Ralston, USCA	Poor-no-more
Globe-Ralston, USCA	Ralston

Golden-Eldorado, USCA	Eldorado
Golden-Eldorado, USCA	Golden King
Granite King, USCA	B & M
Granite King, USCA	Granite King & Live Oak
Grass Valley, USCA	Banner
Grass Valley, USCA	Bellafontaine
Grass Valley, USCA	Ben Franklin
Grass Valley, USCA	California Consolidated Quartz
Grass Valley, USCA	Canada Hill
Grass Valley, USCA	Champion
Grass Valley, USCA	Cincinnati
Grass Valley, USCA	Crown Point
Grass Valley, USCA	Empire
Grass Valley, USCA	Empire West
Grass Valley, USCA	Federal Loan
Grass Valley, USCA	Golden Gate
Grass Valley, USCA	Hage
Grass Valley, USCA	Hartery
Grass Valley, USCA	Idaho-Maryland
Grass Valley, USCA	Massachusetts
Grass Valley, USCA	Montana
Grass Valley, USCA	Normandie
Grass Valley, USCA	North Star
Grass Valley, USCA	Omaha
Grass Valley, USCA	Oregon
Grass Valley, USCA	Prudential
Grass Valley, USCA	Union Hill
Grass Valley, USCA	WYOD
Grass Valley, USCA	Wisconsin
Green Excelsior, USCA	Excelsior
Green Excelsior, USCA	Green Emigrant
Greenback, USOR	Anaconda
Greenback, USOR	Horseshoe
Greenback, USOR	Jim Blaine
Greenback, USOR	Martha
Greenback, USOR	Oro Grande
Greenback, USOR	Shot
Gwynne, USCA	Gwynne
Gwynne, USCA	Hanover
Gwynne, USCA	Puite Mountain
Hall Creek, CNBC	Bear
Hall Creek, CNBC	Fern
Hall Creek, CNBC	Gold King
Hirst-Chichagof, USAK	Chichagof
Hirst-Chichagof, USAK	Hirst

Homestake-McCarty, USAK	Homestake
Homestake-McCarty, USAK	McCarty
Hornitos, USCA	Campos
Hornitos, USCA	Doss
Hornitos, USCA	Duncan
Hornitos, USCA	Martinez
Hornitos, USCA	Number Eight
Hornitos, USCA	Number Nine
Hornitos, USCA	White Quartz
Hull-Duleek, USCA	Duleek
Hull-Duleek, USCA	Hull
Jacksonville, USCA	Clio
Jacksonville, USCA	Harrison
Jacksonville, USCA	Mammoth
Jacksonville, USCA	Orcutt
Jacksonville, USCA	Republican
Jacksonville, USCA	Stanley
Jacksonville, USCA	Willieta
Jamestown, USCA	Alabama
Jamestown, USCA	App
Jamestown, USCA	Arbona
Jamestown, USCA	Combination
Jamestown, USCA	Crystalline
Jamestown, USCA	Dutch
Jamestown, USCA	Erin-go-bralgh and Cloudman
Jamestown, USCA	Gray Eagle
Jamestown, USCA	Harvard
Jamestown, USCA	Heslep
Jamestown, USCA	Hitchcock
Jamestown, USCA	Isabella and Gem
Jamestown, USCA	Jumper
Jamestown, USCA	Lead
Jamestown, USCA	Little Gem
Jamestown, USCA	Mazeppa
Jamestown, USCA	No. 1
Jamestown, USCA	Nyman
Jamestown, USCA	O.K. and North Extension
Jamestown, USCA	Ophir
Jamestown, USCA	Pacific
Jamestown, USCA	Prospect
Jamestown, USCA	Rappahannock
Jamestown, USCA	Rawhide
Jamestown, USCA	Rawhide No. 2
Jamestown, USCA	Santa Ysabels
Jamestown, USCA	Shore
Jamestown, USCA	Sweeney
Jamestown, USCA	Tarantula
Jamestown, USCA	Toledo
Jamestown, USCA	Vulture
Jamestown, USCA	Alameda

Jubilee-New Jubilee, AUVC	Jubilee
Jubilee-New Jubilee, AUVC	New Jubilee
Julian-Banner, USCA	Banner
Julian-Banner, USCA	Blue Hill
Julian-Banner, USCA	Helvetia
Julian-Banner, USCA	North Hubbard
Julian-Banner, USCA	Owens
Julian-Banner, USCA	Ready Relief
Kelsey North USCA	St. Lawrence
Kelsey North, USCA	Gopher-Boulder
Kelsey, USCA	Big Sandy
Kelsey, USCA	Kelsey
Kensington-Comet, USAK	Bear
Kensington-Comet, USAK	Comet
Kensington-Comet, USAK	Horrible
Kensington-Comet, USAK	Ivanhoe
Kensington-Comet, USAK	Kensington
Kensington-Comet, USAK	Northern Belle
Kinsley, USCA	Bandarita
Kinsley, USCA	Black I
Kinsley, USCA	Gold King
Kinsley, USCA	Hasloe
Kinsley, USCA	Lovely Rogers
Kinsley, USCA	Texas Hill
Liberty, USCA	Ball
Liberty, USCA	Cleaver (Brown Bear)
Liberty, USCA	Humpback (Fagundez)
Liberty, USCA	Klamath
Liberty, USCA	Mt. Laurel
Liberty, USCA	Uncle Sam
Little Squaw-Summit, USAK	Little Squaw
Little Squaw-Summit, USAK	Summit
Long Mary-Alice, USCA	Alice
Long Mary-Alice, USCA	Long Mary
Lucky Bart, USOR	Blosson
Lucky Bart, USOR	Carbonate
Lucky Bart, USOR	Corporal G
Lucky Bart, USOR	Gold Plate
Lucky Shot-War Baby, USAK	Lucky Shot
Lucky Shot-War Baby, USAK	War Baby

Lyell Goldfield, NZLD	Alpine United
Lyell Goldfield, NZLD	Break-of-the-Day
Lyell Goldfield, NZLD	Croesus
Lyell Goldfield, NZLD	Lyell Creek Extended
Lyell Goldfield, NZLD	Tyrconnel
Lyell Goldfield, NZLD	United Italy
Malden, AUVC	Beehive
Malden, AUVC	Derby Limited
Malden, AUVC	Eaglehawk Consolidated
Malden, AUVC	Great West Cymru
Malden, AUVC	North British
Malden, AUVC	Nuggety Reef
Malden, AUVC	Old South German
Malden, AUVC	South German Co.
Malden, AUVC	South German Extended
Malden, AUVC	Union
Malden, AUVC	Victoria Co.
Mokelumne Hill, USCA	Boston
Mokelumne Hill, USCA	Easyz Bird
Mokelumne Hill, USCA	French Hill
Mokelumne Hill, USCA	Lucas
Mokelumne Hill, USCA	Mammoth and Jupiter
Mokelumne Hill, USCA	Peek Ranch
Mokelumne Hill, USCA	Union Consolidated
Moore's Flat, USCA	Ancho
Moore's Flat, USCA	Birchville
Moore's Flat, USCA	Ethel Gold
Moore's Flat, USCA	Gaston Ridge
Moore's Flat, USCA	Keller
Moore's Flat, USCA	Republic
Moore's Flat, USCA	Rocky Glen
Morris Ravine, USCA	Banner
Morris Ravine, USCA	Bumble Bee
Mount Buckingham-Eureka, USCA	Mount Buckingham
Mount Buckingham-Eureka, USCA	Eureka
Mount Bullion, USCA	Appollo
Mount Bullion, USCA	Black Spring
Mount Bullion, USCA	Boarding House
Mount Bullion, USCA	Green Gulch
Mount Bullion, USCA	Lewis Brothers
Mount Bullion, USCA	Lewis Brothers
Mount Bullion, USCA	Louis
Mount Bullion, USCA	Lugwig
Mount Bullion, USCA	Massa Garden
Mount Bullion, USCA	Mount Ophir
Mount Bullion, USCA	Mountain View
Mount Bullion, USCA	Princeton

Mount Gaines, USCA	Badger
Mount Gaines, USCA	Enterprise
Mount Gaines, USCA	Mount Gaines
Mount Gaines, USCA	Number Five
Mount Gaines, USCA	Number One
Nashville, USCA	Nashville
Nashville, USCA	Briar Cliff
New Era-Rowe, AUVC	New Era
New Era-Rowe, AUVC	Rowe and Co.
North Galice, USOR	Ajax
North Galice, USOR	Benton
North Galice, USOR	California
North Galice, USOR	Gold Bug
North Galice, USOR	JCL
North Galice, USOR	Reno
North Kinsley, USCA	Gold Bar
North Kinsley, USCA	Montara
North Kinsley, USCA	Moonlight
North Kinsley, USCS	Marble Spring
North Murphy, USCA	Blue Ribbon
North Murphy, USCA	Caruthers
North Murphy, USCA	Fenian
North Murphy, USCA	Mar Jones
North Murphy, USCA	Right Bower
North Murphy, USCA	Washington
Oakes & Reese, USCA	Iron Duke
Oakes & Reese, USCA	Oakes & Reese
Old Diggings, USCA	Central
Old Diggings, USCA	Reid
Old Diggings, USCA	Texas Consolidated
Ophir, USCA	Big Pine
Ophir, USCA	Blue Eagle
Ophir, USCA	Conrad
Ophir, USCA	Crater
Ophir, USCA	DOIG
Ophir, USCA	Eclipse
Ophir, USCA	Gold Blossom
Ophir, USCA	Green
Ophir, USCA	Hathaway
Ophir, USCA	Mina Rica
Ophir, USCA	Oro Fino
Ophir, USCA	Three Star
Paloma-Gwinn, USCA	Gwinn
Paloma-Gwinn, USCA	Hancock and Tibbits
Paloma-Gwinn, USCA	Oneta

Paloma-Gwinn, USCA	South Paloma
Paloma-Gwinn, USCA	White Swan
Paparoa Range, NZLD	Croesus
Paparoa Range, NZLD	Golden Gully
Paparoa Range, NZLD	Minerva
Paparoa Range, NZLD	Taffy
Penryn, USCA	Alabama
Penryn, USCA	Chicago
Placerville, USCA	Pacific Quartz
Placerville, USCA	Sherman
Reefton Goldfield, NZLD	A.1.
Reefton Goldfield, NZLD	Alexander River
Reefton Goldfield, NZLD	Argus
Reefton Goldfield, NZLD	Band of Hope
Reefton Goldfield, NZLD	Big River South
Reefton Goldfield, NZLD	Big River-Lord Edward
Reefton Goldfield, NZLD	Blackwater
Reefton Goldfield, NZLD	Bonanzo (Fraternal)
Reefton Goldfield, NZLD	Caledonian
Reefton Goldfield, NZLD	Cumberland
Reefton Goldfield, NZLD	Dauntless
Reefton Goldfield, NZLD	Dillon
Reefton Goldfield, NZLD	Earl Brassey
Reefton Goldfield, NZLD	Empire
Reefton Goldfield, NZLD	Energetic-Wealth of Nations
Reefton Goldfield, NZLD	Exchange-Industry
Reefton Goldfield, NZLD	Fiery Cross
Reefton Goldfield, NZLD	Gallant
Reefton Goldfield, NZLD	Garibaldi
Reefton Goldfield, NZLD	Gladstone-Sir Charles Russell
Reefton Goldfield, NZLD	Globe-Progress
Reefton Goldfield, NZLD	Goden Fleece-Ajax
Reefton Goldfield, NZLD	Golden Arch
Reefton Goldfield, NZLD	Golden Lead-O.K.
Reefton Goldfield, NZLD	Golden Ledge
Reefton Goldfield, NZLD	Golden Point
Reefton Goldfield, NZLD	Golden Treasure-Comstock
Reefton Goldfield, NZLD	Heather Bell
Reefton Goldfield, NZLD	Hercules-Nil Desperandum
Reefton Goldfield, NZLD	Homer
Reefton Goldfield, NZLD	Hurley's Leader
Reefton Goldfield, NZLD	Imperial
Reefton Goldfield, NZLD	Inglewood-North Star
Reefton Goldfield, NZLD	Inkerman
Reefton Goldfield, NZLD	Inkerman South
Reefton Goldfield, NZLD	Inkerman West
Reefton Goldfield, NZLD	Invincible-Anderson Creek
Reefton Goldfield, NZLD	Italian Gully
Reefton Goldfield, NZLD	Just-in-Time
Reefton Goldfield, NZLD	Keep-it-dark

Reefton Goldfield, NZLD	Lady Louisa
Reefton Goldfield, NZLD	Lady of the Lake
Reefton Goldfield, NZLD	Larry's No. 1
Reefton Goldfield, NZLD	Lone Star
Reefton Goldfield, NZLD	Lord Brassey
Reefton Goldfield, NZLD	Mark Twain
Reefton Goldfield, NZLD	Merrijigs
Reefton Goldfield, NZLD	Millerton
Reefton Goldfield, NZLD	Morning Star-New Discovery
Reefton Goldfield, NZLD	National
Reefton Goldfield, NZLD	New-haven
Reefton Goldfield, NZLD	No. 2 South Keep-it-Dark-Pandora
Reefton Goldfield, NZLD	No. 2 South Larry's
Reefton Goldfield, NZLD	North Big River
Reefton Goldfield, NZLD	Oriental
Reefton Goldfield, NZLD	Pactolus
Reefton Goldfield, NZLD	Perseverance
Reefton Goldfield, NZLD	Prima Donna
Reefton Goldfield, NZLD	Rainy Creek-Supreme-Golden Gulley
Reefton Goldfield, NZLD	Reform-Imperial-South Hopeful
Reefton Goldfield, NZLD	Saraty
Reefton Goldfield, NZLD	Scotia
Reefton Goldfield, NZLD	Sir Francis Drake-Happy Valley
Reefton Goldfield, NZLD	Snowy Creek
Reefton Goldfield, NZLD	South Blackwater-Kathleen
Reefton Goldfield, NZLD	Specimen Hill
Reefton Goldfield, NZLD	St. George
Reefton Goldfield, NZLD	Tripoli
Reefton Goldfield, NZLD	Ulster
Reefton Goldfield, NZLD	Venus
Reefton Goldfield, NZLD	Welcome-Hopeful
Reefton Goldfield, NZLD	Westland
Rich Gulch, USCA	Beggar
Rich Gulch, USCA	Bright Star
Rich Gulch, USCA	Hawkins
Rich Gulch, USCA	Ilex
Rich Gulch, USCA	Ophir Consolidated
Rich Gulch, USCA	Quartz Glen
Rich Gulch, USCA	Sparrow Hawk
Schley-Lucky Chuck, USCA	Lucky Chuck
Schley-Lucky Chuck, USCA	Schley
Sheep Ranch, USCA	Admiral Dewey
Sheep Ranch, USCA	Chavenne
Sheep Ranch, USCA	Hurricane
Sheep Ranch, USCA	Lodi
Sheep Ranch, USCA	Lost Boy
Sheep Ranch, USCA	Old Henry
Sheep Ranch, USCA	Old McKinney
Sheep Ranch, USCA	Sheep Ranch

Smith Heid-Montana Basin, USAK	Montana Basin
Smith Heid-Montana Basin, USAK	Smith Heid
Soulsbyville, USCA	Black Oak
Soulsbyville, USCA	Columbia
Soulsbyville, USCA	Draper
Soulsbyville, USCA	Grizzly
Soulsbyville, USCA	Hunter
Soulsbyville, USCA	Soulsby
Soulsbyville, USCA	Spring Gulch
Sutter Creek, USCA	Argonaut
Sutter Creek, USCA	Central Eureka
Sutter Creek, USCA	Kennedy
Sutter Creek, USCA	Lincoln
Sutter Creek, USCA	Mahoney
Sutter Creek, USCA	Old Eureka
Sutter Creek, USCA	Oneida
Sutter Creek, USCA	South Eureka
Sutter Creek, USCA	Wildman
Tuolumme River, USCA	Eagle Bluff
Tuolumme River, USCA	Ellen Winton
Tuolumme River, USCA	Mohican
Tuolumme River, USCA	River Bend
Tuolumme River, USCA	San Francisco
Tuolumme River, USCA	Sunnyside
Tuolumme River, USCA	Winslow
West Meadow, USCA	Buchanon
West Meadow, USCA	Chaparrel
West Meadow, USCA	Hunter
West Meadow, USCA	Paragon
West Meadow, USCA	Spring Gulch
Westland, NZLD	Donnellys Creek
Westland, NZLD	Mt. Greenland
Westland, NZLD	Osmers
Whitlock East, USCA	Artru
Whitlock East, USCA	Champion II
Whitlock East, USCA	Champion III
Whitlock East, USCA	Colorado
Whitlock East, USCA	Evans I
Whitlock East, USCA	Landrum
Whitlock East, USCA	Menlo Consolidated
Whitlock East, USCA	Mockingbird I
Whitlock East, USCA	White Oak
Whitlock West, USCA	B. Diltz
Whitlock West, USCA	Banner
Whitlock West, USCA	Buena Vista
Whitlock West, USCA	Cleveland
Whitlock West, USCA	Emma II

Whitlock West, USCA	Geary
Whitlock West, USCA	Golden Key
Whitlock West, USCA	Mebold I
Whitlock West, USCA	Milburn
Whitlock West, USCA	Mohawk
Whitlock West, USCA	North Whitlock
Whitlock West, USCA	Nutmeg
Whitlock West, USCA	Our Chance
Whitlock West, USCA	Permit
Whitlock West, USCA	Rex
Whitlock West, USCA	Schroeder
Whitlock West, USCA	Spread Eagle
Whitlock West, USCA	Sultana
Whitlock West, USCA	Sunshine
Whitlock West, USCA	Triumph
Whitlock West, USCA	Yellow Metal
Yankee Hill, USCA	Pinkston
Yankee Hill, USCA	Surcease
Zeila, USCA	Moore
Zeila, USCA	Zeila

Table 4B. Alphabetic list of mines followed by deposits of which they are a member; deposits are low-sulfide Au quartz veins; for a list of deposits, see Table 3 and Table 4A.

MINE NAME	DEPOSIT NAME
A.1.	Reefton Goldfield, NZLD
AVG	AVG-Sanderson, USCA
Adelaide	Coulterville, USCA
Adelia	Angels Camp-Carson Hill, USCA
Admiral Dewey	Sheep Ranch, USCA
Ajax	Dalesford, AUVC
Ajax	North Galice, USOR
Ajax Central	Dalesford, AUVC
Ajax North	Dalesford, AUVC
Alabama	Jamestown, USCA
Alabama	Penryn, USCA
Alameda	Jamestown,USCA
Alaska	Alleghany West, USCA
Alaska-Juneau	Alaska-Juneau, USAK
Alaska-Washington	Aurora Borealis-Bessie, USAK
Alex Hill	Alex Hill-Mad Kiss, GUYN
Alexander	Glencoe-Woodhouse, USCA
Alexander River	Reefton Goldfield, NZLD
Alice	Long Mary-Alice, USCA
Alpha	Glencoe-Woodhouse, USCA
Alpine United	Lyell Goldfield, NZLD
Alta	Coulterville South, USCA
Altaville	Angels Camp-Carson Hill, USCA
Amy Balch	French Gulch, USCA
Anaconda	Greenback, USOR
Ancho	Moore's Flat, USCA
Angels	Angels Camp-Carson Hill, USCA
Angels Deep	Angels Camp-Carson Hill, USCA
Anglo German Co	Bendigo, AUVC
Annabelle	Coulterville South, USCA
App	Jamestown, USCA
Appollo	Mount Bullion, USCA
Arbona	Jamestown, USCA
Argonaut	Sutter Creek, USCA
Argus	Reefton Goldfield, NZLD
Artru	Whitlock East, USCA
Ashland	Ashland, USOR
Aurora Borealis	Aurora Borealis-Bessie, USAK
Aurum	Caribou-Aurum, CNBC
Aurum	Coquihalla-Carolin, CNBC
B & M	Granite King, USCA

MINE NAME	DEPOSIT NAME
B. Diltz	Whitlock West, USCA
Bachman	Fourth Crossing, USCA
Badger	Mount Gaines, USCA
Bailey	Globe-Ralston, USCA
Balance	Coulterville, USCA
Ball	Liberty, USCA
Ballerstedt and Co.	Bendigo, AUVC
Band of Hope	Reefton Goldfield, NZLD
Band of Hope and Albion Consolidated	Ballarat, AUVC
Bandarita	Kinsley, USCA
Banner	Glencoe-Woodhouse, USCA
Banner	Grass Valley, USCA
Banner	Julian-Banner, USCA
Banner	Morris Ravine, USCA
Banner	Whitlock West, USCA
Bear	Hall Creek, CNBC
Bear	Kensington-Comet, USAK
Beehive	Malden, AUVC
Beggar	Rich Gulch, USCA
Beldon	Beldon, USCA
Bella Union	Chinese Camp, USCA
Bellafontaine	Grass Valley, USCA
Belmont and Saxby	Bendigo, AUVC
Ben Franklin	Grass Valley, USCA
Bence-South vein	Esmeralda, USCA
Bendigo	Glencoe-Woodhouse, USCA
Benson	Angels Camp-Carson Hill, USCA
Benton	North Galice, USOR
Bessie	Aurora Borealis-Bessie, USAK
Big Betsy	Forbstown, USCA
Big Blue Group	Cove Mountain, USCA
Big Four	Fourth Crossing, USCA
Big Oak Tree	Colfax, USCA
Big Pine	Ophir, USCA
Big River South	Reefton Goldfield, NZLD
Big River-Lord Edward	Reefton Goldfield, NZLD
Big Sandy	Kelsey, USCA
Big Spring	Angels Camp-Carson Hill, USCA
Birchville	Moore's Flat, USCA
Birthday	Birthday-William Fancy, AUVC
Birthday Tunnel	Birthday-William Fancy, AUVC
Black Bear	Black Bear, USCA
Black Hill	Ballarat, AUVC
Black Hill	Coulterville, USCA

MINE NAME	DEPOSIT NAME
Black I	Kinsley, USCA
Black Mountain	Coulterville South, USCA
Black Oak	Soulsbyville, USCA
Black Prince	Beldon, USCA
Black Spring	Mount Bullion, USCA
Blackstone	Blackstone, USCA
Blackwater	Reefton Goldfield, NZLD
Blosson	Lucky Bart, USOR
Blue Eagle	Ophir, USCA
Blue Hill	Julian-Banner, USCA
Blue Jay	Glencoe-Woodhouse, USCA
Blue Ribbon	North Murphy, USCA
Boarding House	Mount Bullion, USCA
Bolitha	Angels Camp-Carson Hill, USCA
Bonanzo (Fraternal)	Reefton Goldfield, NZLD
Bondurant	Bondurant, USCA
Bonehard	Esmeralda, USCA
Boston	Mokelumne Hill, USCA
Boston-Esperanza	Amador City, USCA
Bowman	Alleghany West, USCA
Bozeman	Coulterville, USCA
Break-of-the-Day	Lyell Goldfield, NZLD
Brennan and Co.	Bendigo, AUVC
Briar Cliff	Nashville, USCA
Bright Star	Rich Gulch, USCA
Britannia	Buller-Mokihinui, NZLD
Britannia United	Ballarat, AUVC
Brown Bear	French Gulch, USCA
Bruner	Angels Camp-Carson Hill, USCA
Brunswick	French Gulch, USCA
Brush	Alleghany East, USCA
Buchanon	West Meadow, USCA
Buena Vista	Blackstone, USCA
Buena Vista	Whitlock West, USCA
Buffalo	Feliciana, USCA
Bull Dog	Glencoe-Woodhouse, USCA
Bullion Group	Colombo-Bullion Group, USCA
Bumble Bee	Morris Ravine, USCA
Bunker Hill	Amador City, USCA
Burdie Group	Ashland, USOR
Burgess	Fourth Crossing, USCA
Busco	Esmeralda, USCA
Butte	Coulterville, USCA
Caledonian	Reefton Goldfield, NZLD

MINE NAME	DEPOSIT NAME
California	North Galice, USOR
California Consolidated Quartz	Grass Valley, USCA
California Group	Amador City, USCA
Campos	Hornitos, USCA
Canada Hill	Grass Valley, USCA
Capstick	Gem Olive, USCA
Carbonate	Lucky Bart, USOR
Caribou Gold Quartz	Caribou-Aurum, CNBC
Carlisle	Bendigo, AUVC
Carlisle	Forbstown, USCA
Carolin	Coquihalla-Carolin, CNBC
Caruthers	North Murphy, USCA
Catherine Reef United	Bendigo, AUVC
Center	Esmeralda, USCA
Central	Old Diggings, USCA
Central Eureka	Sutter Creek, USCA
Central Nell Gwynne	Bendigo, AUVC
Central Plateau	Ballarat, AUVC
Central Red White and Blue	Bendigo, AUVC
Champion	Grass Valley, USCA
Champion I	Coulterville, USCA
Champion II	Whitlock East, USCA
Champion III	Whitlock East, USCA
Chaparrel	West Meadow, USCA
Chaparrel-North Vein	Esmeralda, USCA
Chavenne	Sheep Ranch, USCA
Cherokee	Angels Camp-Carson Hill, USCA
Chicago	Penryn, USCA
Chichagof	Hirst-Chichagof, USAK
Chloride	Globe-Ralston, USCA
Cincinnati	Grass Valley, USCA
Cinderella	Bendigo, AUVC
Clarence United	Bendigo, AUVC
Clary	AVG-Sanderson, USCA
Clearinghouse	El Portal, USCA
Cleaver (Brown Bear)	Liberty, USCA
Cleveland	Browns Valley, USCA
Cleveland	Whitlock West, USCA
Cleveland-Pacific	Escondido, USCA
Clifton Ranch	Angels Camp-Carson Hill, USCA
Clio	Jacksonville, USCA
Clipper and Snyder Group	French Gulch, USCA

MINE NAME	DEPOSIT NAME
Collman and Tacchi	Bendigo, AUVC
Colombo	Colombo-Bullion Group, USCA
Colorado	Whitlock East, USCA
Columbia	Angels Camp-Carson Hill, USCA
Columbia	Soulsbyville, USCA
Combination	Jamestown, USCA
Comet	Kensington-Comet, USAK
Confidence Extended	Bendigo, AUVC
Conrad	Ophir, USCA
Confidence	Confidence-Lamphere, USCA
Consolidated Eureka II	Coulterville, USCA
Constellation	Bendigo, AUVC
Coquihalla	Coquihalla-Carolin, CNBC
Cornish Co.	Dalesford, AUVC
Cornish United	Bendigo, AUVC
Corporal G	Lucky Bart, USOR
Cotton Creek	Bear Valley, USCA
Cow Bell	Esmeralda, USCA
Crater	Ophir, USCA
Cravath	Escondido, USCA
Croesus	Lyell Goldfield, NZLD
Croesus	Paparoa Range, NZLD
Crown Point	Grass Valley, USCA
Crystal	Coulterville, USCA
Crystalline	Jamestown, USCA
Cumberland	Reefton Goldfield, NZLD
Curiosity	Angels Camp-Carson Hill, USCA
Curtis	Angels Camp-Carson Hill, USCA
DOIG	Ophir, USCA
Daliah	Coulterville, USCA
Dan Reynolds	AVG-Sanderson, USCA
Dannebroge	Browns Valley, USCA
Dauntless	Reefton Goldfield, NZLD
Dead Horse	Angels Camp-Carson Hill, USCA
Deborah	Bendigo, AUVC
Del Norte	Alleghany East, USCA
Demarest	Angels Camp-Carson Hill, USCA
Demarest	Demarest, USCA
Democrat Springs	Gem, USCA
Densmore	Densmore, USCA
Derby Limited	Malden, AUVC
Diadem	Alleghany East, USCA
Dillion	Coulterville, USCA

MINE NAME	DEPOSIT NAME
Dillon	Reefton Goldfield, NZLD
Dividend	Eagle River-Dividend, USAK
Doleman	Bear Valley South, USCA
Donnellys Creek	Westland, NZLD
Dorothea	Dorothea, USOR
Doss	Hornitos, USCA
Double Jack	Ashland, USOR
Draper	Soulsbyville, USCA
Duleek	Hull-Duleek, USCA
Duncan	Hornitos, USCA
Duncan and Adams	El Dorado, USCA
Dutch	Jamestown, USCA
E. Pluribus Unum	Eagle River-Dividend, USAK
Eagle Bluff	Tuolumme River, USCA
Eagle Shawmut	Chinese Camp, USCA
Eaglehawk Consolidated	Malden, AUVC
Earl Brassey	Reefton Goldfield, NZLD
Early	Early-Sweetwater, USCA
East Rutherford	El Portal, USCA
Easyz Bird	Mokelumne Hill, USCA
Eclipse	Ophir, USCA
Economic	Esmeralda, USCA
Eldorado	Golden-Eldorado, USCA
Eliza	Eliza-Schroeder, USCA
Elizabeth	Bear Valley South, USCA
Ellen Winton	Tuolumme River, USCA
Ellenborough	Bendigo, AUVC
Ely	Coulterville, USCA
Emma II	Whitlock West, USCA
Empire	Grass Valley, USCA
Empire	Reefton Goldfield, NZLD
Empire West	Grass Valley, USCA
Energetic-Wealth of Nations	Reefton Goldfield, NZLD
Enterprise	Mount Gaines, USCA
Erin-go-bralgh and Cloudman	Jamestown, USCA
Esmeralda and Sunrise	Esmeralda, USCA
Ethel Gold	Moore's Flat, USCA
Etna	Glencoe-Woodhouse, USCA
Etna King	Angels Camp-Carson Hill, USCA
Eureka	Mount Buckingham-Eureka, USCA
Eureka Extended	Bendigo, AUVC

MINE NAME	DEPOSIT NAME
Eureka III	El Portal, USCA
Eureka and Mississippi	Big Oak Flat, USCA
Evans I	Whitlock East, USCA
Evening Star	Angels Camp-Carson Hill, USCA
Excelsior	Excelsior-Ryan, USCA
Excelsior	Green Excelsior, USCA
Exchange-Industry	Reefton Goldfield, NZLD
Fazzi	Angels Camp-Carson Hill, USCA
Federal Loan	Grass Valley, USCA
Feliciana	Feliciana, USCA
Fellowcraft	Ford, USCA
Fenian	North Murphy, USCA
Fern	Hall Creek, CNBC
Fidelity	Glencoe-Woodhouse, USCA
Fiery Cross	Reefton Goldfield, NZLD
Fine Gold	Fine Gold, USCA
Forbstown	Forbstown, USCA
Ford (Apex)	Ford, USCA
Fortuna Hustlers	Bendigo, AUVC
Foster	Angels Camp-Carson Hill, USCA
Frederick the Great	Bendigo, AUVC
Fremont-Grover	Amador City, USCA
French	French, USCA
French Hill	Mokelumne Hill, USCA
Fricot Consolidated	Esmeralda, USCA
Gallant	Reefton Goldfield, NZLD
Gambetta and Arkansas Travelers	Gambetta and Arkansas Travelers, USCA
Gambrinus	French Gulch, USCA
Garden Gulley United	Bendigo, AUVC
Garibaldi	Bendigo, AUVC
Garibaldi	Glencoe-Woodhouse, USCA
Garibaldi	Reefton Goldfield, NZLD
Gaston Ridge	Moore's Flat, USCA
Geary	Whitlock West, USCA
Gem	Densmore, USCA
Gem	Gem, USCA
Gem Olive	Gem Olive, USCA
Georgia Point	El Portal, USCA
Ghost	Angels Camp-Carson Hill, USCA
Gilded Age	Glencoe-Woodhouse, USCA
Gladstone-Sir Charles Russell	Reefton Goldfield, NZLD
Glencoe	Glencoe-Woodhouse, USCA
Globe	Globe-Ralston, USCA
Globe-Progress	Reefton Goldfield, NZLD

MINE NAME	DEPOSIT NAME
Golden Fleece-Ajax	Reefton Goldfield, NZLD
Gold Bar	North Kinsley, USCA
Gold Blossom	Ophir, USCA
Gold Bring	Bear Valley South, USCA
Gold Bug	North Galice, USOR
Gold Cliff	Angels Camp-Carson Hill, USCA
Gold Coin	Coulterville, USCA
Gold Hill	Angels Camp-Carson Hill, USCA
Gold Hill	Angels Camp-Carson Hill, USCA
Gold King	Hall Creek, CNBC
Gold King	Kinsley, USCA
Gold Plate	Lucky Bart, USOR
Gold Star	El Portal, USCA
Golden Age	Bendigo, AUVC
Golden Arch	Reefton Goldfield, NZLD
Golden Fleece Co.	Bendigo, AUVC
Golden Gate	Grass Valley, USCA
Golden Gully	Paparoa Range, NZLD
Golden Key	Whitlock West, USCA
Golden King	Golden-Eldorado, USCA
Golden Lead-O.K.	Reefton Goldfield, NZLD
Golden Ledge	Reefton Goldfield, NZLD
Golden Point	Reefton Goldfield, NZLD
Golden Pyke	Bendigo, AUVC
Golden Star	Angels Camp-Carson Hill, USCA
Golden Treasure-Comstock	Reefton Goldfield, NZLD
Good Hope	Glencoe-Woodhouse, USCA
Good Luck	Fine Gold, USCA
Gopher-Boulder	Kelsey North, USCA
Granite King & Live Oak	Granite King, USCA
Gray Eagle	Jamestown, USCA
Great Extended Hustlers	Bendigo, AUVC
Great Extended Hustlers Tribute	Bendigo, AUVC
Great Northern	Ballarat, AUVC
Great Republic	Buller-Mokihinui, NZLD
Great South Long Tunnel	Long-Tunnel, AUVC
Great Southern Garden Gully	Bendigo, AUVC
Great West Cymru	Malden, AUVC
Great Western	Angels Camp-Carson Hill, USCA
Green	Ophir, USCA
Green Emigrant	Green Excelsior, USCA
Green Gulch	Mount Bullion, USCA
Greenstone	Angels Camp-Carson Hill, USCA
Grizzly	Soulsbyville, USCA

MINE NAME	DEPOSIT NAME
Gwinn	Paloma-Gwinn, USCA
Gwynne	Gwynne, USCA
Hage	Grass Valley, USCA
Halycon	French Gulch, USCA
Hancock and Tibbits	Paloma-Gwin, USCA
Hanover	Gwynne, USCA
Harrison	Jacksonville, USCA
Hartery	Grass Valley, USCA
Harvard	Jamestown, USCA
Hasloe	Kinsley, USCA
Hathaway	Ophir, USCA
Hawkins	Rich Gulch, USCA
Heather Bell	Reefton Goldfield, NZLD
Helena	Coulterville, USCA
Helvetia	Julian-Banner, USCA
Henry Clay	French Gulch, USCA
Hercules and Energetic	Bendigo, AUVC
Hercules and Energetic East	Bendigo, AUVC
Hercules-Nil Desperandum	Reefton Goldfield, NZLD
Heslep	Jamestown, USCA
Hibbert and Barris	Browns Valley, USCA
Hicks	Angels Camp-Carson Hill, USCA
Hirst	Hirst-Chichagof, USAK
Hitchcock	Jamestown, USCA
Hite	El Portal, USCA
Hite Central	El Portal, USCA
Holy Ghost	Angels Camp-Carson Hill, USCA
Homer	Reefton Goldfield, NZLD
Homestake	Homestake-McCarty, USAK
Horrible	Kensington-Comet, USAK
Horseshoe	Greenback, USOR
Horseshoe II	Bear Valley, USCA
Hull	Hull-Duleek, USCA
Humpback (Fagundez)	Liberty, USCA
Hunter	Soulsbyville, USCA
Hunter	West Meadow, USCA
Hurley's Leader	Reefton Goldfield, NZLD
Hurricane	Sheep Ranch, USCA
Hustlers No. 1	Bendigo, AUVC
Hustlers Reef	Bendigo, AUVC
Idaho-Maryland	Grass Valley, USCA
Ilex	Rich Gulch, USCA
Illinois	Demarest, USCA
Imperial	Reefton Goldfield, NZLD

MINE NAME	DEPOSIT NAME
Indian Gulch	Forbston, USCA
Inglewood-North Star	Reefton Goldfield, NZLD
Inkerman	Reefton Goldfield, NZLD
Inkerman South	Reefton Goldfield, NZLD
Inkerman West	Reefton Goldfield, NZLD
Invincible-Anderson Creek	Reefton Goldfield, NZLD
Iron Duke	Oakes & Reese, USCA
Ironbark	Bendigo, AUVC
Isabella and Gem	Jamestown, USCA
Italian	Amador City, USCA
Italian Gully	Reefton Goldfield, NZLD
Ivanhoe	Kensington-Comet, USAK
JCL	North Galice, USOR
Jefferson	Browns Valley, USCA
Jim Blaine	Greenback, USOR
MINE NAME	DEPOSIT NAME
Johnson's Reef	Bendigo, AUVC
Josephine	Gambetta and Arkansas Travelers, USCA
Jubilee	Jubilee-New Jubilee, AUVC
Jumper	Jamestown, USCA
Juniper	Bear Valley, USCA
Just-in-Time	Reefton Goldfield, NZLD
K & J	Esmeralda, USCA
Kate Hardy	Alleghany East, USCA
Keep-it-dark	Reefton Goldfield, NZLD
Keller	Moore's Flat, USCA
Kelsey	Kelsey, USCA
Kennedy	Sutter Creek, USCA
Kensington	Kensington-Comet, USAK
Keystone	Amador City, USCA
Keystone	Angels Camp-Carson Hill, USCA
Klamath	Liberty, USCA
Kochs Pioneer	Bendigo, AUVC
La Verne	Glencoe-Woodhouse, USCA
Lady Belle	Cove Mountain, USCA
Lady Louisa	Reefton Goldfield, NZLD
Lady of the Lake	Reefton Goldfield, NZLD
Lamphere	Confidence-Lamphere, USCA
Landrum	Whitlock East, USCA
Lansell's 180	Bendigo, AUVC
Lansell's Comet	Bendigo, AUVC
Lansell's North Red White and Blue	Bendigo, AUVC
Lansell's South Red White and Blue Tribute	Bendigo, AUVC
Larry's No. 1	Reefton Goldfield, NZLD

MINE NAME	DEPOSIT NAME
Last Chance	Angels Camp-Carson Hill, USCA
Last Chance United	Ballarat, AUVC
Latham and Watson	Bendigo, AUVC
Lazarus	Bendigo, AUVC
Lazarus No. 1	Bendigo, AUVC
Lead	Jamestown, USCA
Lewis Brothers	Mount Bullion, USCA
Lightner	Angels Camp-Carson Hill, USCA
Lincoln	Sutter Creek, USCA
Lindsey	Angels Camp-Carson Hill, USCA
Little Gem	Jamestown, USCA
Little Squaw	Little Squaw-Summit, USAK
Live Oak and Governor	Bagby North, USCA
Livingston	Dorothea, USOR
Llanberris	Ballarat, AUVC
Lodi	Sheep Ranch, USCA
Lone Star	Reefton Goldfield, NZLD
Long Mary	Long Mary-Alice, USCA
Long Tunnel Extension	Long Tunnel, AUVC
Longfellow	Big Oak Flat, USCA
Longworth	Angels Camp-Carson Hill, USCA
Lookout	Coulterville, USCA
Lord Barkley	Bendigo, AUVC
Lord Brassey	Reefton Goldfield, NZLD
Los Parker	Feliciana, USCA
Lost Boy	Sheep Ranch, USCA
Louis	Mount Bullion, USCA
Louisa	Coulterville, USCA
Louisiana	Bondurant, USCA
Lovely Rogers	Kinsley, USCA
Lucas	Mokelumne Hill, USCA
Lucky Boy	Fourth Crossing, USCA
Lucky Boy	French, USCA
Lucky Chuck	Schley-Lucky Chuck, USCA
Lucky Shoot	Lucky Shoot-War Baby, USAK
Lugwig	Mount Bullion, USCA
Lyell Creek Extended	Lyell Goldfield, NZLD
M & F	French Gulch, USCA
Mack	Big Oak Flat, USCA
Mad Kiss	Alex Hill-Mad Kiss, GUYN
Mad Ox	French Gulch, USCA
Madison	Angels Camp-Carson Hill, USCA
Mahoney	Sutter Creek, USCA

MINE NAME	DEPOSIT NAME
Maltman	Angels Camp-Carson Hill, USCA
Malvina Group	Coulterville, USCA
Mammoth	Jacksonville, USCA
Mammoth and Jupiter	Mokelumne Hill, USCA
Mar Jones	North Murphy, USCA
Marble Fay	Angels Camp-Carson Hill, USCA
Marble Spring	North Kinsley, USCS
Margaret	Coulterville, USCA
Maria	Esmeralda, USCA
Mark Twain	Reefton Goldfield, NZLD
Martha	Greenback, USOR
Martinez	El Dorado, USCA
Martinez	Hornitos, USCA
Mary Harrison	Coulterville, USCA
Massa Garden	Mount Bullion, USCA
Massachusetts	Grass Valley, USCA
Mazeppa	Jamestown, USCA
McCarty	Homestake-McCarty, USAK
Mebold I	Whitlock West, USCA
Menlo Consolidated	Whitlock East, USCA
Merced River	Bagby North, USCA
Merrijigs	Reefton Goldfield, NZLD
Mexican	Glencoe-Woodhouse, USCA
Mexican I	Bear Valley South, USCA
Midas	Coulterville, USCA
Milburn	Whitlock West, USCA
Milkmaid and Flanklin	French Gulch, USCA
Millerton	Reefton Goldfield, NZLD
Mina Rica	Ophir, USCA
Minerva	Paparoa Range, NZLD
Missouri	Angels Camp-Carson Hill, USCA
Mockingbird I	Whitlock East, USCA
Mohawk	Angels Camp-Carson Hill, USCA
Mohawk	Whitlock West, USCA
Mohican	Tuolumme River, USCA
Mohrman	Big Oak Flat, USCA
Montana	AVG-Sanderson, USCA
Montana	Grass Valley, USCA
Montana Basin	Smith Heid-Montana Basin, USAK
Montara	North Kinsley, USCA
Montezuma	French Gulch, USCA
Moonlight	North Kinsley, USCA
Moore	Zeila, USCA
Morman	Big Oak Flat, USCA

MINE NAME	DEPOSIT NAME
Morning Star-New Discovery	Reefton Goldfield, NZLD
Mosquito Creek	Caribou-Aurum, CNBC
Mother Lode Central	Angels Camp-Carson Hill, USCA
Mount Buckingham	Mount Buckingham, USCA
Mount Gaines	Mount Gaines, USCA
Mount Ophir	Mount Bullion, USCA
Mountain View	Mount Bullion, USCA
Mountain View II	Coulterville South, USCA
Mt. Greenland	Westland, NZLD
Mt. Laurel	Liberty, USCA
Nashville	Nashville USCA
National	Reefton Goldfield, NZLD
Neill and Co.	Bendigo, AUVC
Nellie Dent and Contact	Cove Mountain, USCA
New Argus	Bendigo, AUVC
New Chum Consolidated	Bendigo, AUVC
New Chum Gold-Fields	Bendigo, AUVC
New Chum Railway	Bendigo, AUVC
New Chum United	Bendigo, AUVC
New Chum and Victoria	Bendigo, AUVC
New Era	New Era-Rowe, AUVC
New Jubilee	Jubilee-New Jubilee, AUVC
New Kohinorr	Ballarat, AUVC
New Moon	Bendigo, AUVC
New Normandy	Ballarat, AUVC
New Red White and Blue Consolidated	Bendigo, AUVC
New South Clunes	Clunes Goldfield, AUVC
New-haven	Reefton Goldfield, NZLD
Niagara	French Gulch, USCA
No. 1	Jamestown, USCA
No. 2 South Keep-it-Dark-Pandora	Reefton Goldfield, NZLD
No. 2 South Larry's	Reefton Goldfield, NZLD
Nonpareil	Big Oak Flat, USCA
Norma	Fourth Crossing, USCA
Normandie	Grass Valley, USCA
North Big River	Reefton Goldfield, NZLD
North British	Malden, AUVC
North Cornish	Dalesford, AUVC
North Deborah	Bendigo, AUVC
North Garden Gully	Bendigo, AUVC
North Hubbard	Julian-Banner, USCA
North Johnsons	Bendigo, AUVC
North Nuggety Ajax	Dalesford, AUVC
North Old Chum	Bendigo, AUVC

MINE NAME	DEPOSIT NAME
North Shenandoah	Bendigo, AUVC
North Star	Angels Camp-Carson Hill, USCA
North Star	Grass Valley, USCA
North Whitlock	Whitlock West, USCA
North Woah Hawp	Ballarat, AUVC
Northern Belle	Kensington-Comet, USAK
Nugget	Angels Camp-Carson Hill, USCA
Nuggety Reef	Malden, AUVC
Number Eight	Hornitos, USCA
Number Five	Mount Gaines, USCA
Number Nine	Hornitos, USCA
Number One	Mount Gaines, USCA
Nutmeg	Whitlock West, USCA
Nyman	Jamestown, USCA
O.K. and North Extension	Jamestown, USCA
Oakes & Reese	Oakes & Reese, USCA
Old Chum	Bendigo, AUVC
Old Dan Reynolds	AVG-Sanderson, USCA
Old Eureka	Sutter Creek, USCA
Old Henry	Sheep Ranch, USCA
MINE NAME	DEPOSIT NAME
Old McKinney	Sheep Ranch, USCA
Old South German	Malden, AUVC
Old Timer	El Portal, USCA
Old Whip Co.	Bendigo, AUVC
Omaha	Grass Valley, USCA
Oneida	Sutter Creek, USCA
Oneta	Paloma-Gwin, USCA
Ophir	Jamestown, USCA
Ophir Consolidated	Rich Gulch, USCA
Orcutt	Jacksonville, USCA
Oregon	Grass Valley, USCA
Oriental	Alleghany West, USCA
Oriental	Reefton Goldfield, NZLD
Original Amador	Amador City, USCA
Oriole Consolidated	Angels Camp-Carson Hill, USCA
Oro Fino	Escondido, USCA
Oro Fino	French Gulch, USCA
Oro Fino	Ophir, USCA
Oro Grande	Greenback, USOR
Oro Rico	Coulterville, USCA
Osborn	Angels Camp-Carson Hill, USCA
Osmers	Westland, NZLD
Oso	Bear Valley, USCA

MINE NAME	DEPOSIT NAME
Our Chance	Whitlock West, USCA
Owens	Julian-Banner, USCA
Pacific	Jamestown, USCA
Pacific Quartz	Placerville, USCA
Pactolus	Reefton Goldfield, NZLD
Panuga	Angels Camp-Carson Hill, USCA
Paragon	West Meadow, USCA
Parnell	Angels Camp-Carson Hill, USCA
Pay Day	AVG-Sanderson, USCA
Pearl	Bendigo, AUVC
Pedro	Fourth Crossing, USCA
Peek Ranch	Mokelumne Hill, USCA
Pendola Garden	Bear Valley South, USCA
Pennsylvania	Browns Valley, USCA
Permit	Whitlock West, USCA
Perseverance	Alaska-Juneau, USAK
Perseverance	Reefton Goldfield, NZLD
Petticoat	AVG-Sanderson, USCA
Philadelphia and Roosevelt	French Gulch, USCA
Pine Tree and Josephine	Bagby, USCA
Pineer	Damascus, USCA
Pinkston	Yankee Hill, USCA
Poe	AVG-Sanderson, USCA
Poor-no-more	Globe-Ralston, USCA
Port Phillips	Clunes Goldfield, AUVC
Prima Donna	Reefton Goldfield, NZLD
Prince of Wales	Bendigo, AUVC
Princess Dagmar	Bendigo, AUVC
Princeton	Mount Bullion, USCA
Prospect	Jamestown, USCA
Prudential	Grass Valley, USCA
Puite Mountain	Gwynne, USCA
Pure Quill	Angels Camp-Carson Hill, USCA
Quartz Glen	Rich Gulch, USCA
Queen Specimen	Bagby, USCA
Rainy Creek-Supreme-Golden Gulley	Reefton Goldfield, NZLD
Ralston	Globe-Ralston, USCA
Rappahannock	Jamestown, USCA
Rathgeb	Fourth Crossing, USCA
Rawhide	Damascus, USCA
Rawhide	Jamestown, USCA
Rawhide No. 2	Jamestown, USCA
Ready Relief	Julian-Banner, USCA

MINE NAME	DEPOSIT NAME
Red Bank	Bagby North, USCA
Red Jay	Angels Camp-Carson Hill, USCA
Red Queen	Buller-Mokihinui, NZLD
Reform-Imperial-South Hopeful	Reefton Goldfield, NZLD
Reid	Old Diggings, USCA
Reisler Ranch	Angels Camp-Carson Hill, USCA
Reno	North Galice, USOR
Republic	Moore's Flat, USCA
Republican	Jacksonville, USCA
Rex	Whitlock West, USCA
Right Bower	North Murphy, USCA
Rising Sun	Colfax, USCA
Rising Sun	Dalesford, AUVC
River Bend	Tuolumme River, USCA
River Tunnel	Bagby, USCA
Rocky Glen	Moore's Flat, USCA
Romaggi & Costa	Angels Camp-Carson Hill, USCA
Romaggi & Family	Angels Camp-Carson Hill, USCA
Rose of Denmark	Bendigo, AUVC
Rowe and Co.	New Era-Rowe, AUVC
Russell	Angels Camp-Carson Hill, USCA
Rutherford	El Portal, USCA
Ryan	Excelsior-Ryan, USCA
Sacramento	Angels Camp-Carson Hill, USCA
Sadowa	Bendigo, AUVC
Safe Deposit	Angels Camp-Carson Hill, USCA
San Bruno	Glencoe-Woodhouse, USCA
San Francisco	Tuolumme River, USCA
Sanderson	AVG-Sanderson, USCA
Santa Ysabels	Jamestown, USCA
Saraty	Reefton Goldfield, NZLD
Schley	Schley-Lucky Chuck, USCA
Schroeder	Bear Valley South, USCA
Schroeder	Eliza-Schroeder, USCA
Schroeder	Whitlock West, USCA
Scorpion	French Gulch, USCA
Scotia	Reefton Goldfield, NZLD
Sea Amalgamated	Bendigo, AUVC
Sheep Ranch	Sheep Ranch, USCA
Sherandoah	Bendigo, AUVC
Sherman	Placerville, USCA
Shore	Jamestown, USCA

MINE NAME	DEPOSIT NAME
Shorty Hope	Ashland, USOR
Shot	Greenback, USOR
Shotgun	Demarest, USCA
Silent Friend	Dorothea, USOR
Silver Right	Coulterville South, USCA
Sir Francis Drake-Happy Valley	Reefton Goldfield, NZLD
Smith Heid	Smith Heid-Montana Basin, USAK
Snowy Creek	Reefton Goldfield, NZLD
Soulsby	Soulsbyville, USCA
South Black Bear	Black Bear, USCA
South Blackwater-Kathleen	Reefton Goldfield, NZLD
South Clunes	Clunes Goldfield, AUVC
South Cranberry	El Portal, USCA
South Devonshire	Bendigo, AUVC
South Eureka	Sutter Creek, USCA
South German Co.	Malden, AUVC
South German Extended	Malden, AUVC
South New Moon	Bendigo, AUVC
South Paloma	Paloma-Gwin, USCA
South St. Mungo	Bendigo, AUVC
South Star	Ballarat, AUVC
Southern Cross	Damascus, USCA
Southern Cross	Coulterville South, USCA
Sparrow Hawk	Rich Gulch, USCA
Specimen	Bagby North, USCA
Specimen	Fourth Crossing, USCA
Specimen Hill	Bendigo, AUVC
Specimen Hill	Reefton Goldfield, NZLD
Speedwell	Ballarat, AUVC
Spread Eagle	Whitlock West, USCA
Spring Gulch	Soulsbyville, USCA
Spring Gulch	West Meadow, USCA
St. George	Reefton Goldfield, NZLD
St. Jude	French Gulch, USCA
St. Lawrence	Kelsey North USCA
St. Mungo	Bendigo, AUVC
Standy By	AVG-Sanderson, USCA
Stanley	Jacksonville, USCA
Star of the East	Ballarat, AUVC
Suffolk United	Bendigo, AUVC
Sulieman Pasha	Ballarat, AUVC
Sultana	Angels Camp-Carson Hill, USCA
Sultana	Whitlock West, USCA
Summit	French Gulch, USCA

MINE NAME	DEPOSIT NAME
Summit	Little Squaw-Summit, USAK
Sunnyside	Tuolumme River, USCA
Sunset I Group	Bear Valley, USCA
Sunshine	Whitlock West, USCA
Surcease	Yankee Hill, USCA
Swastika	Buller-Mokihinui, NZLD
Sweeney	Jamestown, USCA
Sweetwater I	Coulterville South, USCA
Sweetwater II	Early-Sweetwater, USCA
Swiss	Fine Gold, USCA
Sybil	French Gulch, USCA
Talc	Coulterville South, USCA
Taffy	Paparoa Range, NZLD
Tarantula	Chinese Camp, USCA
Tarantula	Jamestown, USCA
Texas Consolidated	Old Diggings, USCA
Texas Hill	Kinsley, USCA
Thorp and Co	Bendigo, AUVC
Thorpe	Fourth Crossing, USCA
Three Sisters	French Gulch, USCA
Three Star	Ophir, USCA
Toledo	Jamestown, USCA
Tollgate	Angels Camp-Carson Hill, USCA
Too Handy	Browns Valley, USCA
Treasure	Amador City, USCA
Triple Lode	Angels Camp-Carson Hill, USCA
Tripoli	Reefton Goldfield, NZLD
Triumph	Whitlock West, USCA
Tyrconnel	Lyell Goldfield, NZLD
Tyro	Coulterville, USCA
Ulster	Reefton Goldfield, NZLD
Ulster United	Bendigo, AUVC
Uncle Sam	Liberty, USCA
Union	El Dorado, USCA
Union	Malden, AUVC
Union	Fourth Crossing, USCA
Union Consolidated	Mokelumne Hill, USCA
Union Hill	Grass Valley, USCA
United Devonshire	Bendigo, AUVC
United Hustlers and Redan	Bendigo, AUVC
United Italy	Lyell Goldfield, NZLD
Unity	Bendigo, AUVC
Utica	Angels Camp-Carson Hill, USCA

MINE NAME	DEPOSIT NAME
Venus	Reefton Goldfield, NZLD
Victoria	Clunes Goldfield, AUVC
Victoria Co.	Malden, AUVC
Victoria Consolidated	Bendigo, AUVC
Victoria Proprietary	Bendigo, AUVC
Victoria Quartz	Bendigo, AUVC
Victoria Reef	Bendigo, AUVC
Victoria United	Ballarat, AUVC
Victory and Pandora	Bendigo, AUVC
Violet	Coulterville, USCA
Virginia	Bendigo, AUVC
Virginia	Coulterville, USCA
Vulture	Jamestown, USCA
WYOD	Grass Valley, USCA
Wagon Rut	Angels Camp-Carson Hill, USCA
War Baby	Lucky Shoot-War Baby, USAK
Washington	French Gulch, USCA
Washington	North Murphy, USCA
Waterman	Angels Camp-Carson Hill, USCA
Welcome-Hopeful	Reefton Goldfield, NZLD
West Rutherford	El Portal, USCA
Westland	Reefton Goldfield, NZLD
White Oak	Whitlock East, USCA
White Quartz	Hornitos, USCA
White Swan	Paloma-Gwin, USCA
Wildman	Sutter Creek, USCA
William Fancy	Birthday-William Fancy, AUVC
Willieta	Jacksonville, USCA
Windmill Hill	Bendigo, AUVC
Winslow	Tuolumme River, USCA
Wisconsin	Grass Valley, USCA
Woodhouse	Blackstone, USCA
Woodhouse	Glencoe-Woodhouse, USCA
Yellow Jacket	Black Bear, USCA
Yellow Metal	Whitlock West, USCA
Yellowstone	Angels Camp-Carson Hill, USCA
Yellowstone	Bear Valley, USCA
Zeila	Zeila, USCA

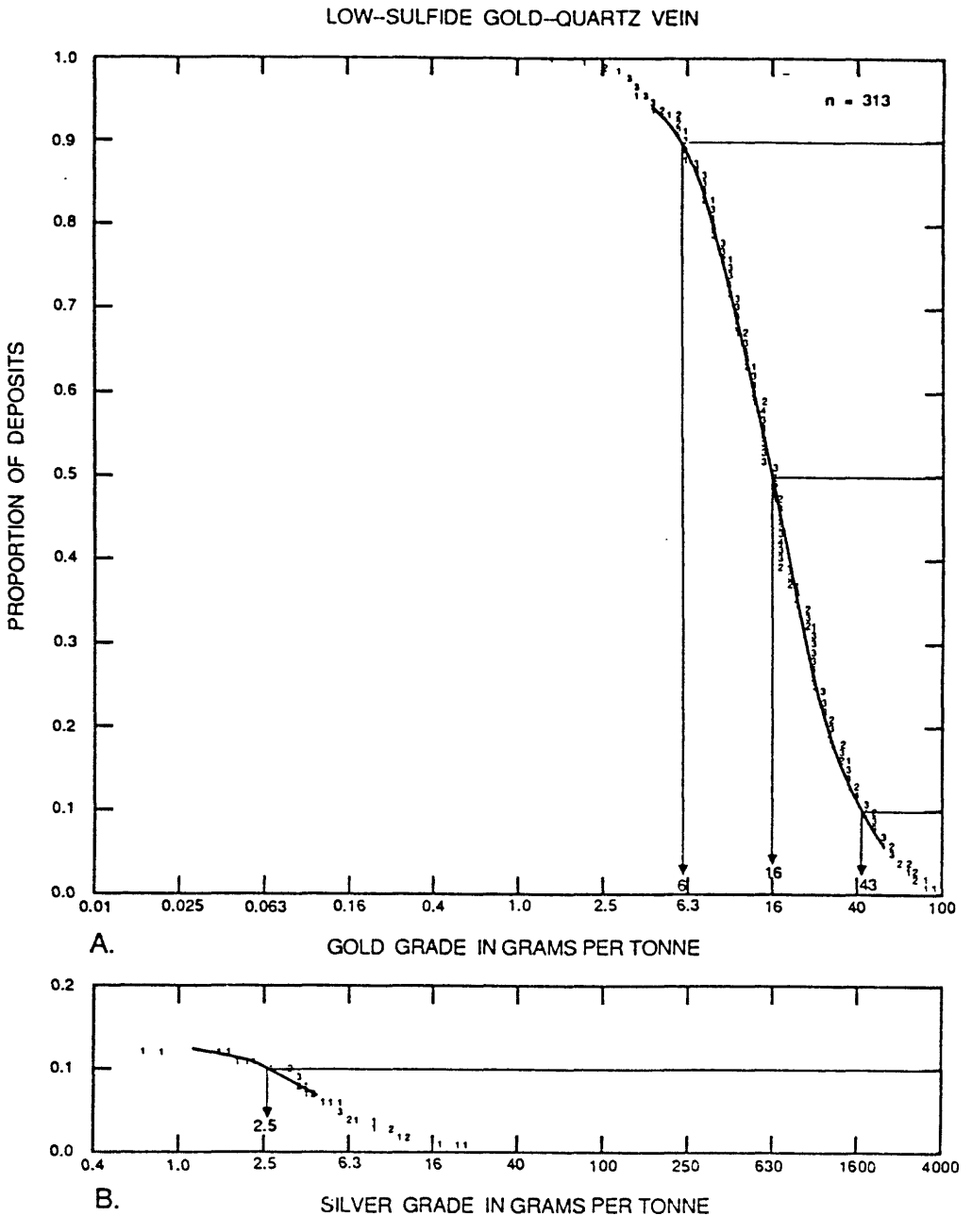

Figure 1. Gold and silver grades of low-sulfide Au-quartz veins (Bliss, 1987). A, Gold. B, Silver.

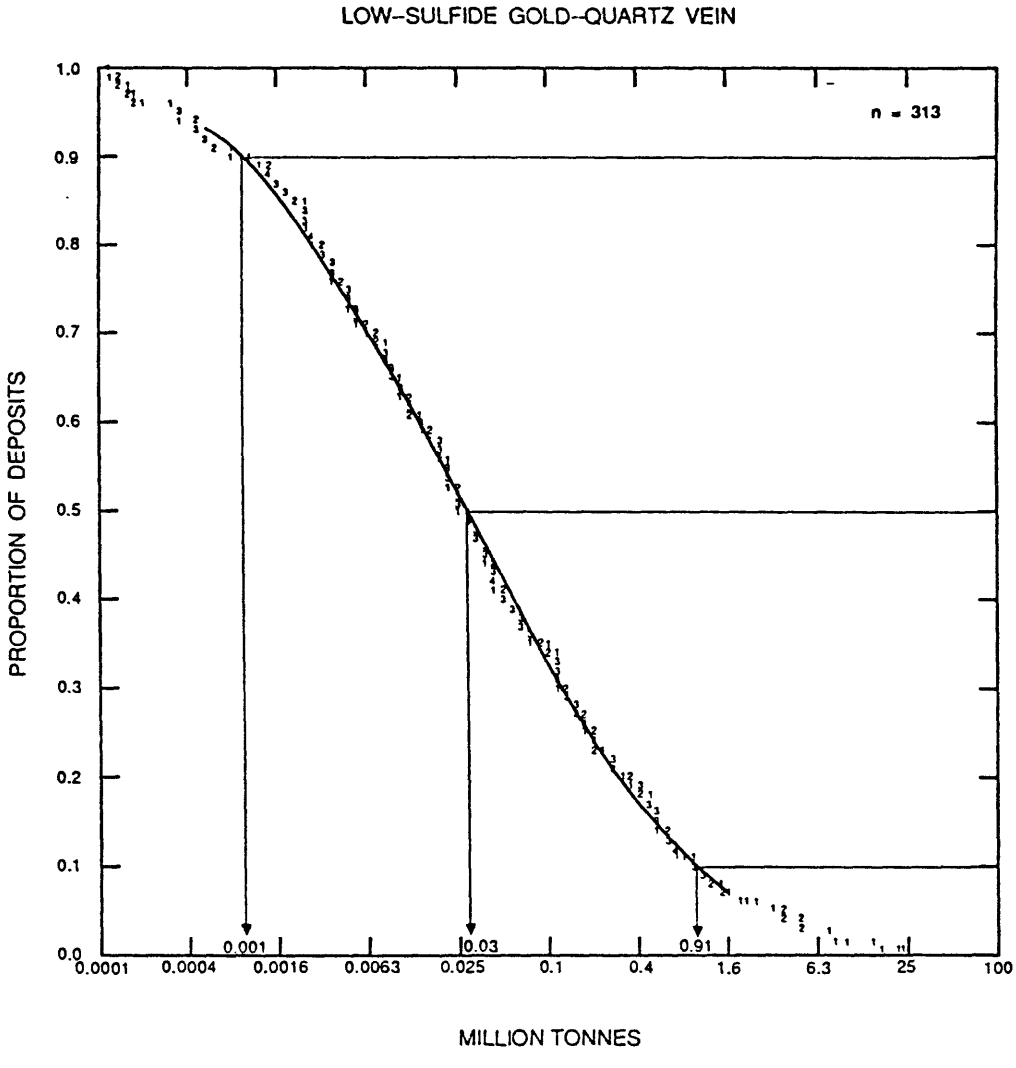

Figure 2. Tonnage of low-sulfide Au-quartz veins (Bliss, 1987).

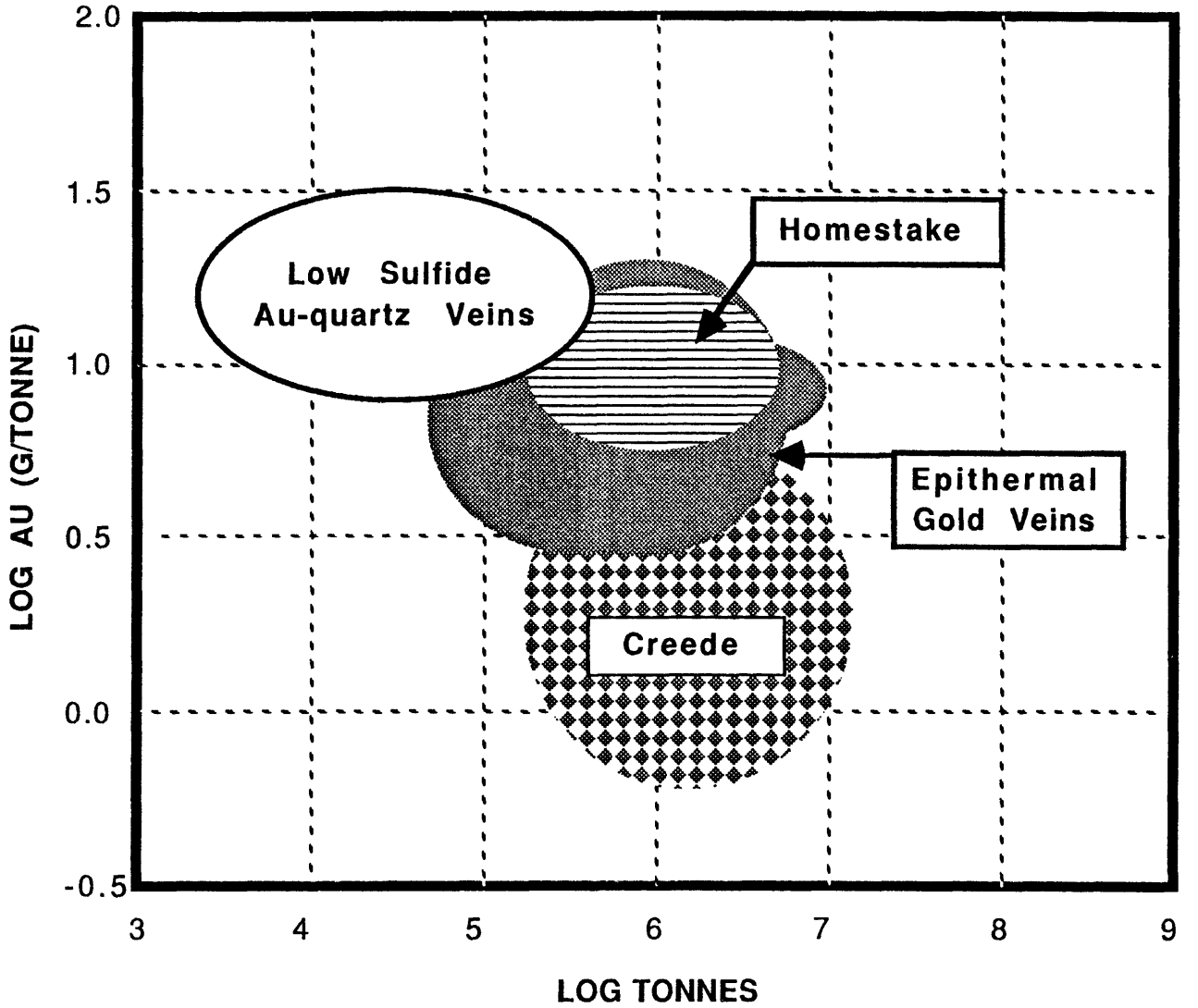

Figure 3. Gold grade-tonnage elipses of selected gold-bearing mineral deposit model types (Cox and Singer, 1987). Each elipse is for 45 percent of the deposits and based on data in Singer (1987). Composite of elipses for epithermal precious-metal deposit types (Comstock epithermal veins, Sado epithermal veins, and epithermal quartz alunite Au.)

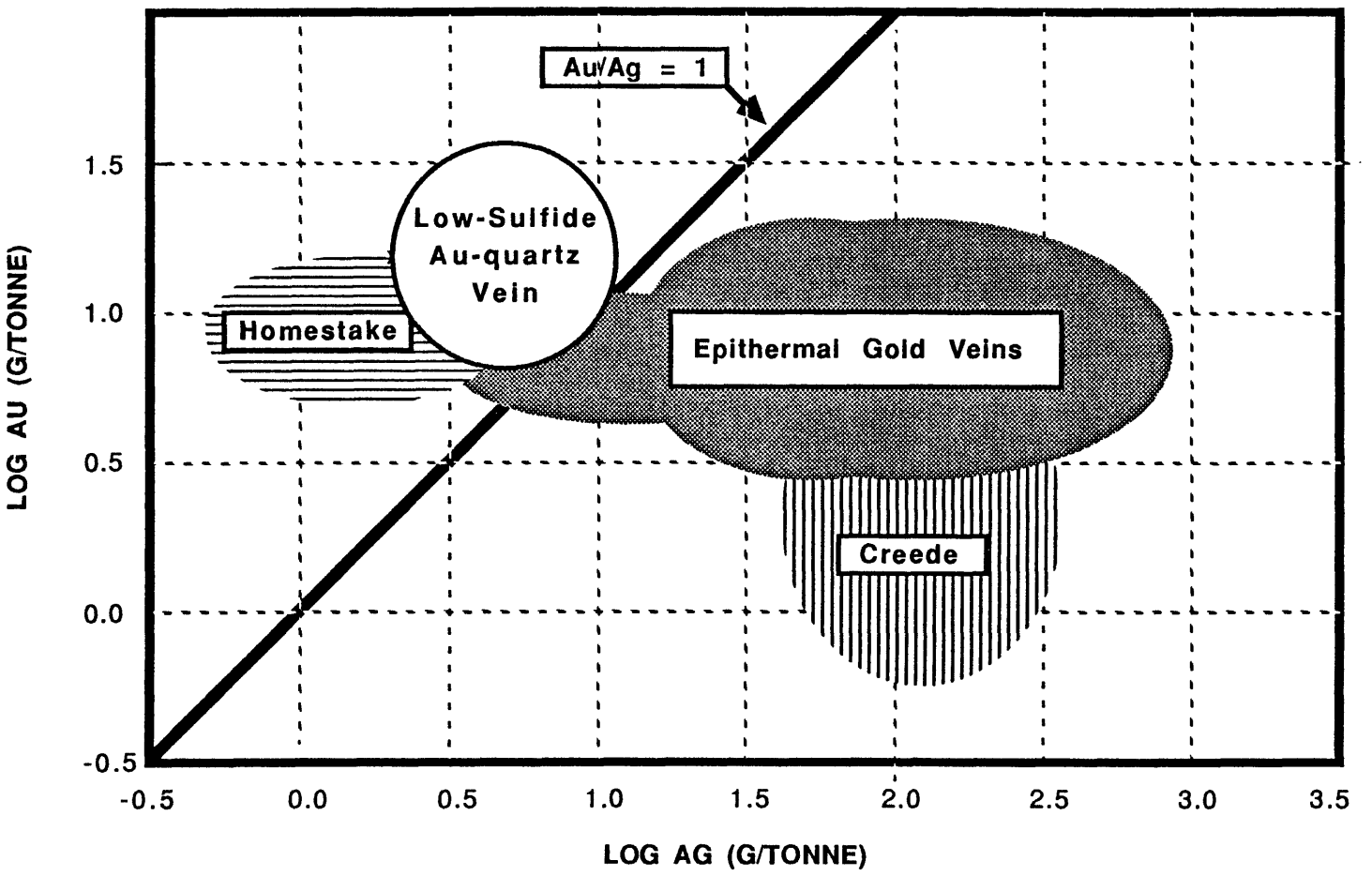

Figure 4. Gold grade-silver grade elipses of selected gold-bearing mineral deposit model types (Cox and Singer, 1987). Each elipse is for 45 percent of the deposits and based on data in Singer (1987). Composite of elipses for epithermal precious-metal deposit types (Comstock epithermal veins, Sado epithermal veins, and epithermal quartz alunite Au.)

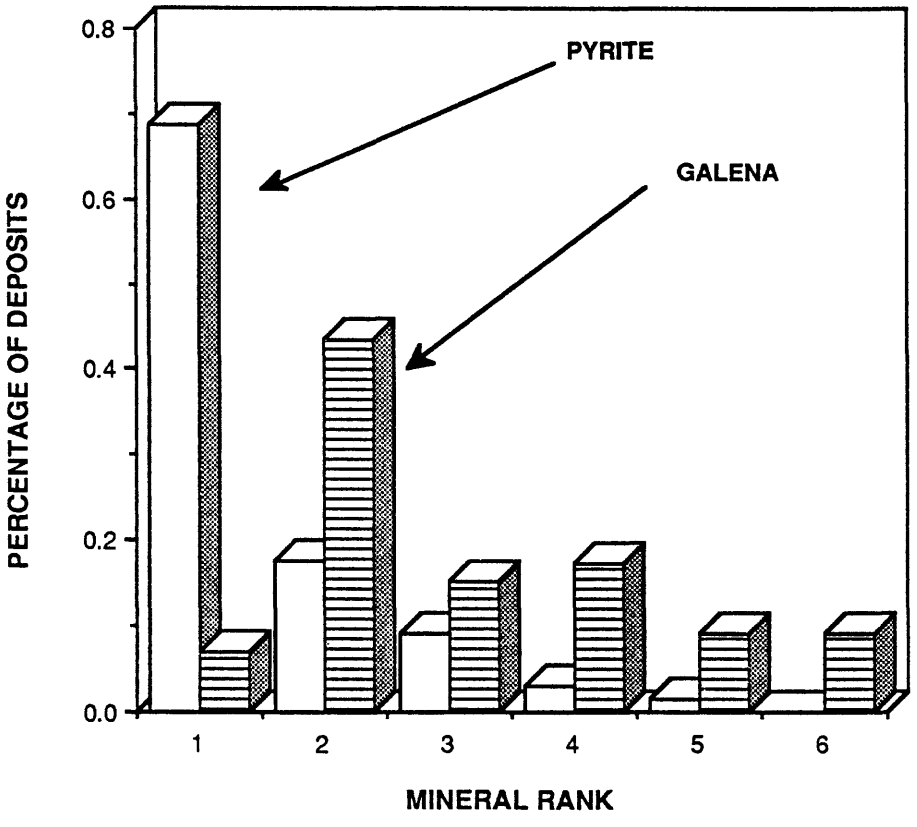

Figure 5. Distribution of ranks for pyrite and galena in low-sulfide Au-quartz veins.

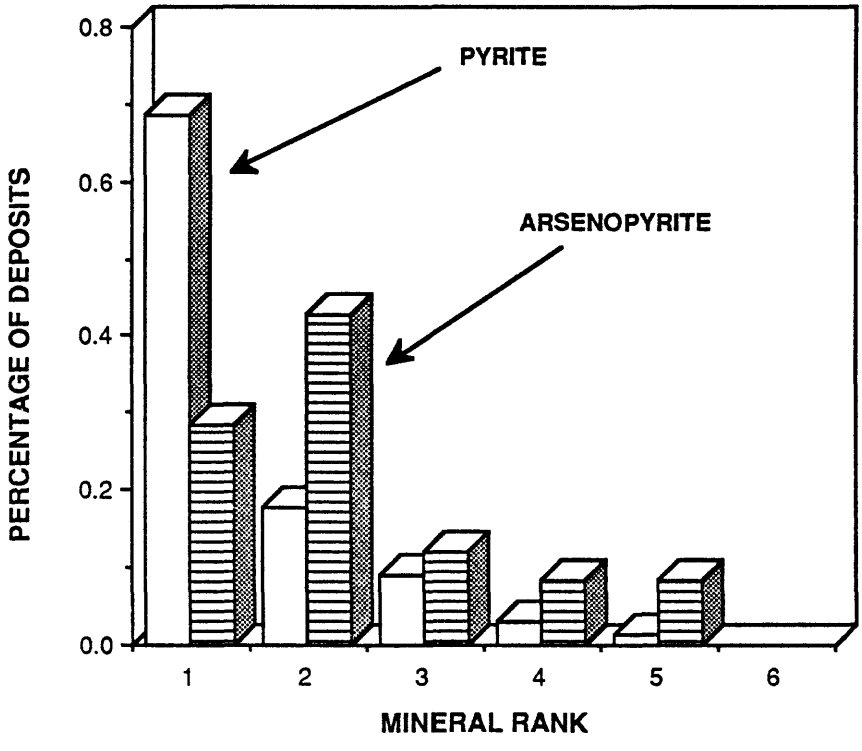

Figure 6. Distribution of ranks for pyrite and arsenopyite in low-sulfide Au-quartz veins.

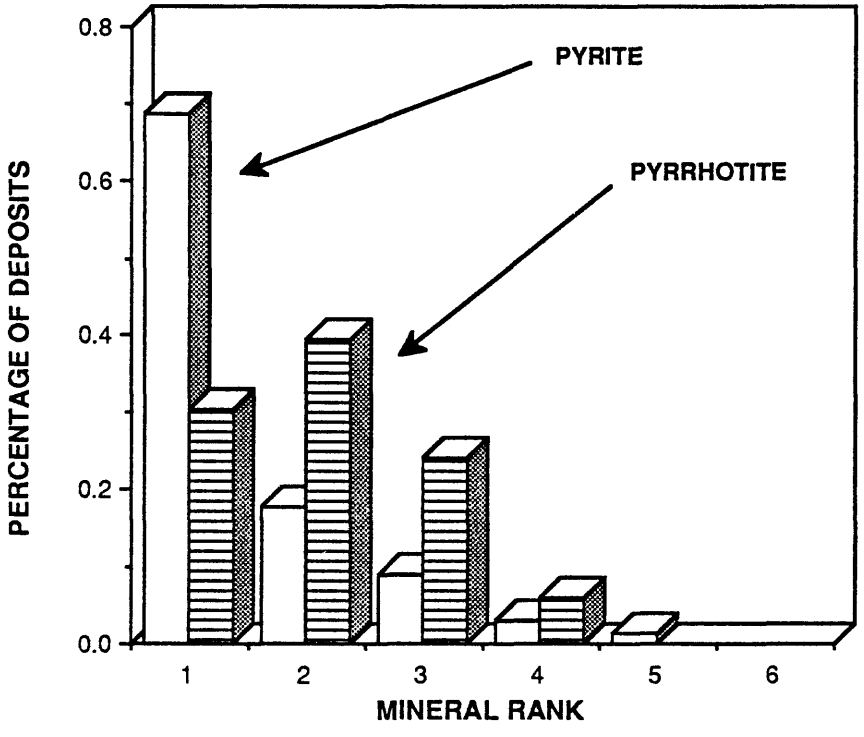

Figure 7. Distribution of ranks for pyrite and pyrrhotite in low-sulfide Au-quartz veins.

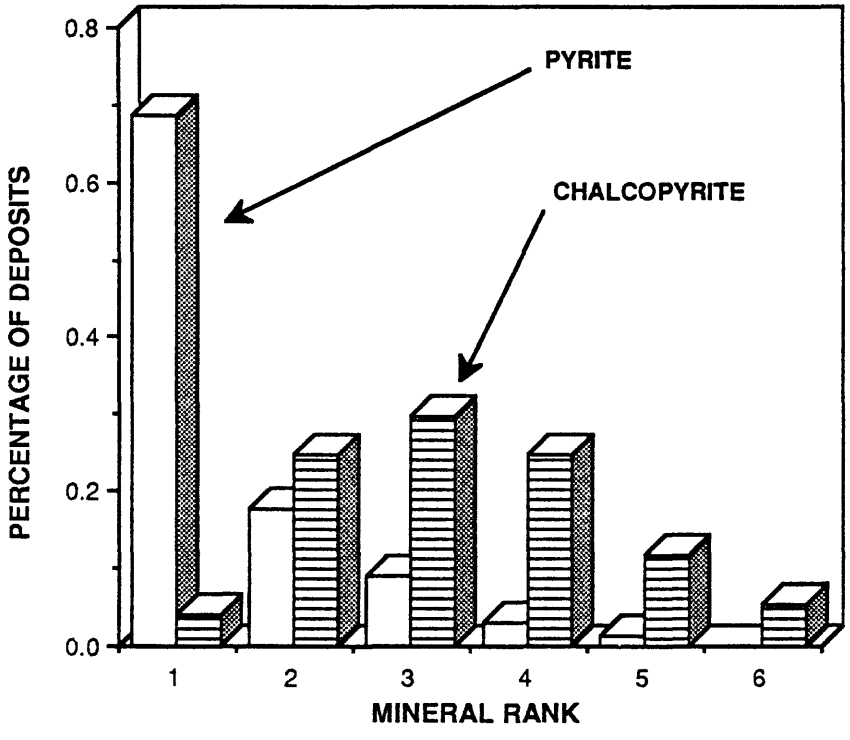

Figure 8. Distribution of ranks for pyrite and chalcopyrite in low-sulfide Au-quartz.

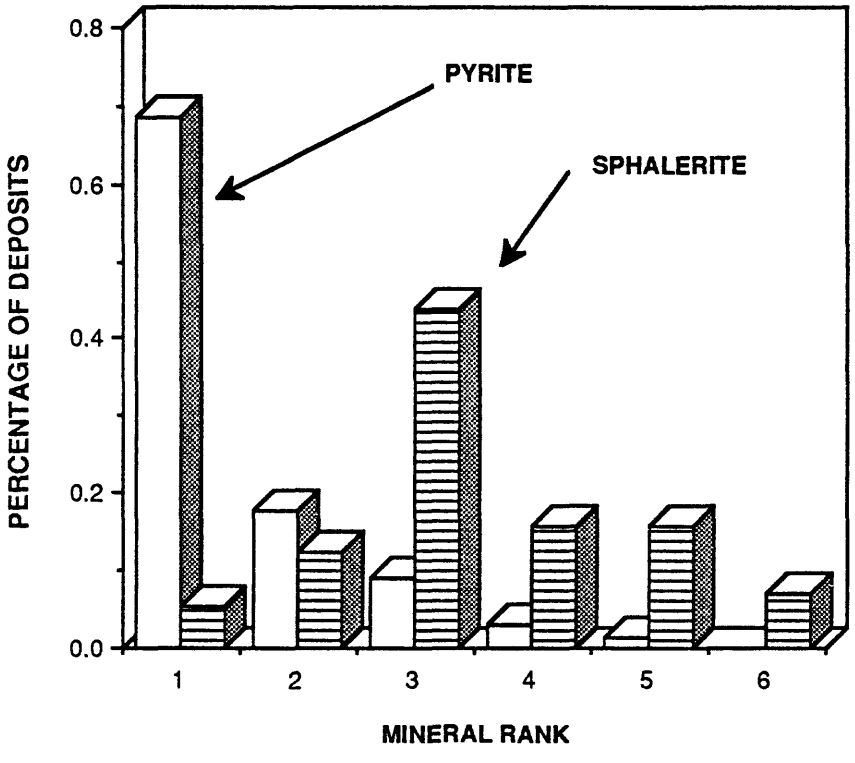

Figure 9. Distribution of ranks for pyrite and sphalerite in low-sulfide Au-quartz veins.

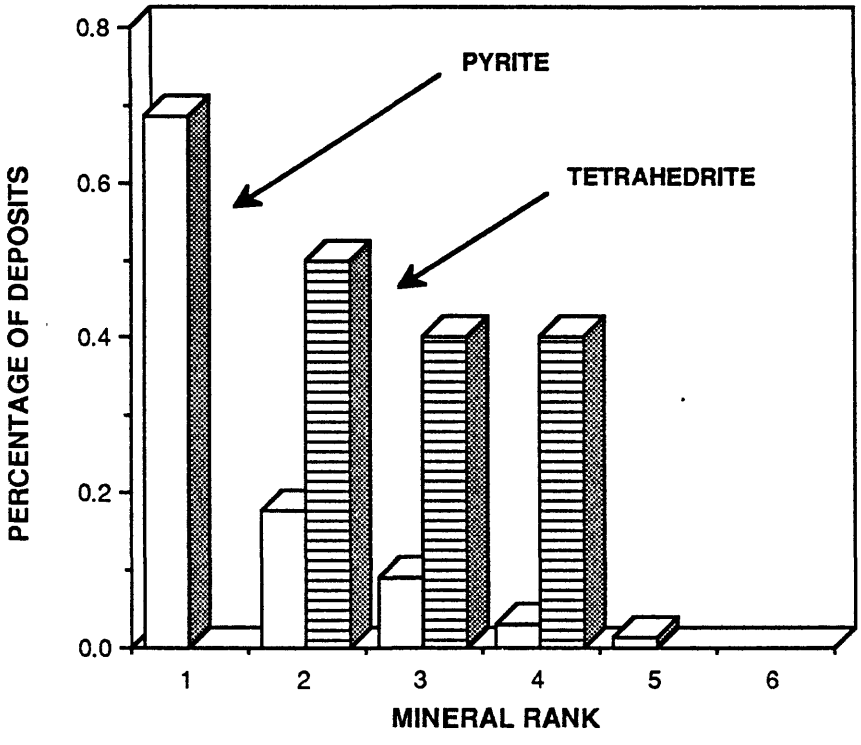

Figure 10. Distribution of ranks for pyrite and tetrahedrite in low-sulfide Au-quartz veins.

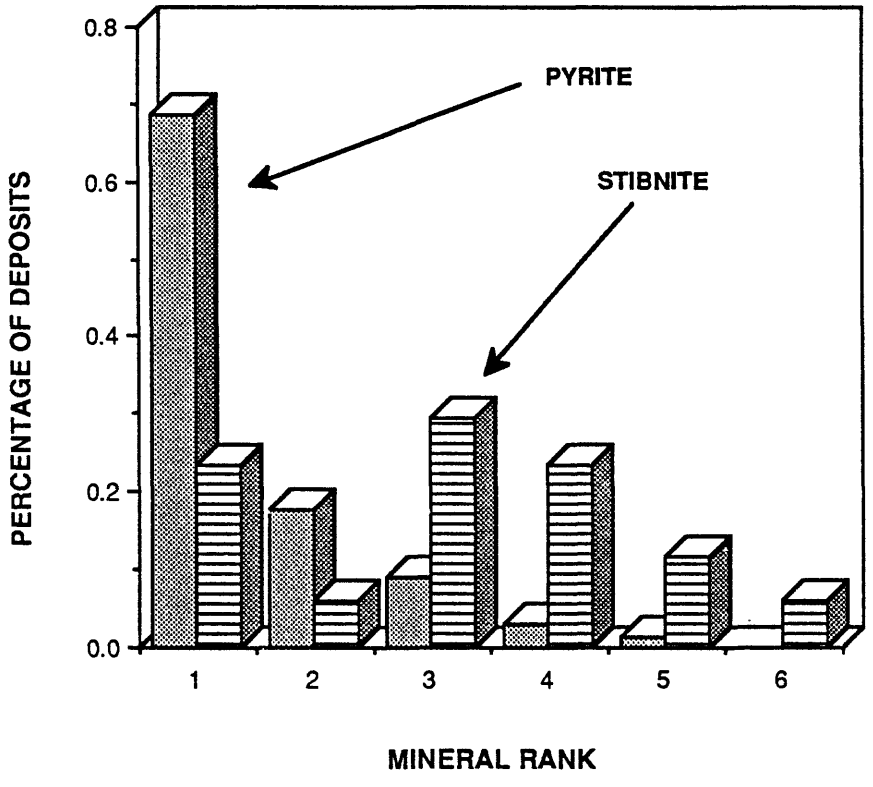

Figure 11. Distribution of ranks for pyrite and stibnite in low-sulfide Au-quartz veins.

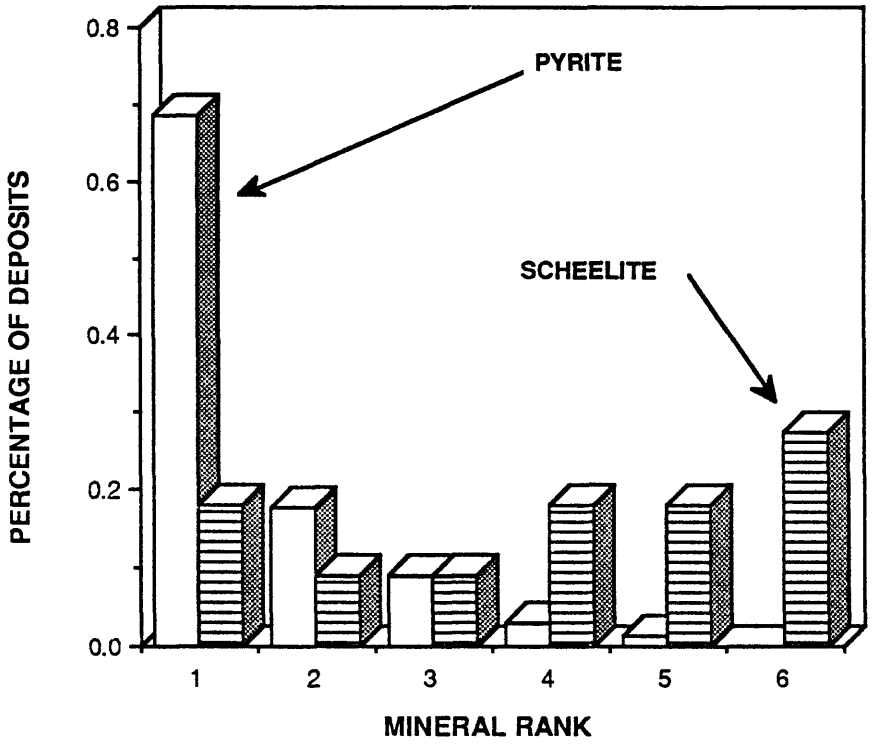

Figure 12. Distribution of ranks for pyrite and scheelite in low-sulfide Au-quartz veins.

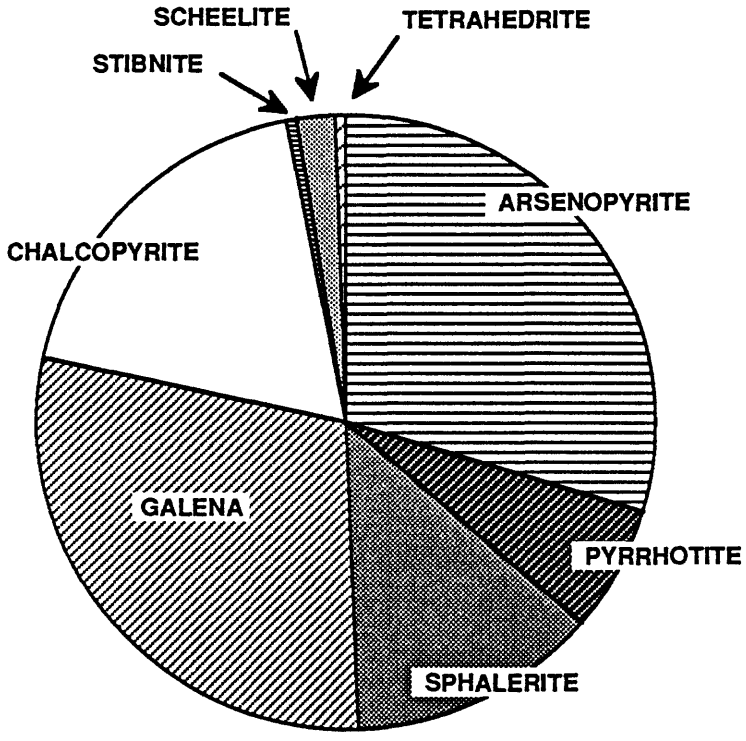

Figure 13. Minerals associated with pyrite in low-sulfide Au-quartz veins. Restricted to minerals in rank one to three. Pyrite reported in 88 percent of deposits among first three ranks.

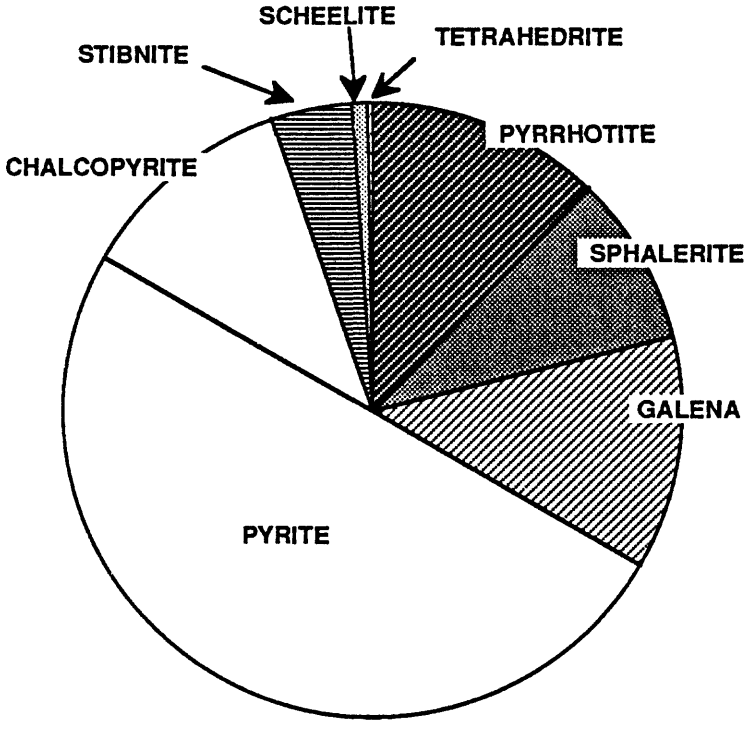

Figure 14. Minerals associated with arsenopyrite in low-sulfide Au-quartz veins. Restricted to minerals in ranks one to three. Arsenopyrite reported in 55 percent of deposits among first three ranks.

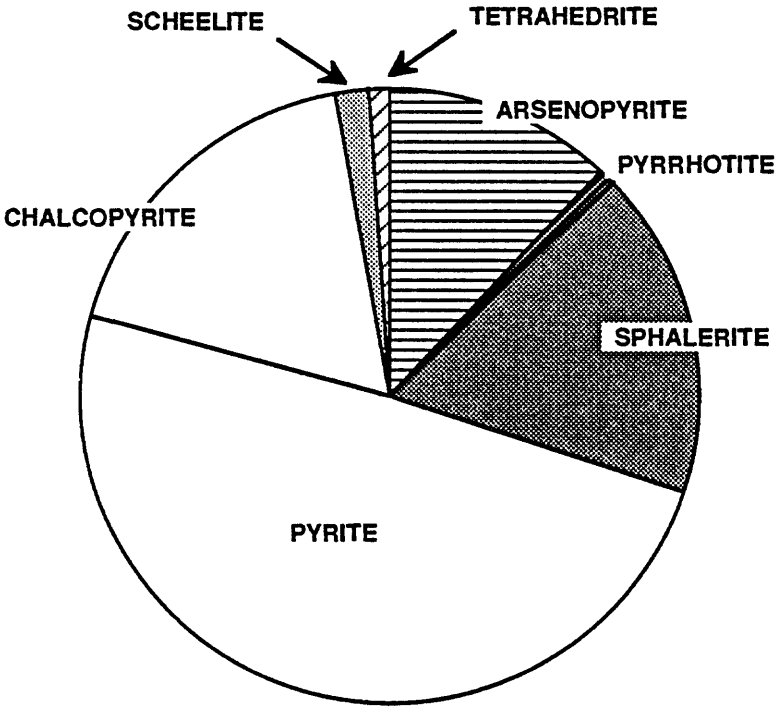

Figure 15. Minerals associated with galena in low-sulfide Au-quartz veins. Restricted to minerals in ranks one to three. Galena reported in 51 percent of deposits among first three ranks.

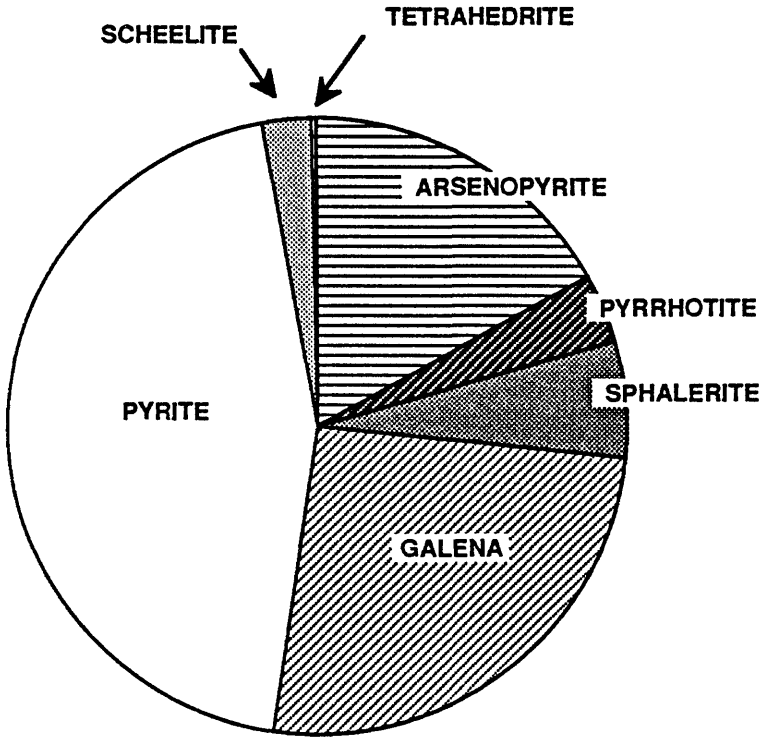

Figure 16. Minerals associated with chalcopyrite in low-sulfide Au-quartz veins. Restricted to minerals in ranks one to three. Chalcopyrite reported in 32 percent of deposits among first three ranks.

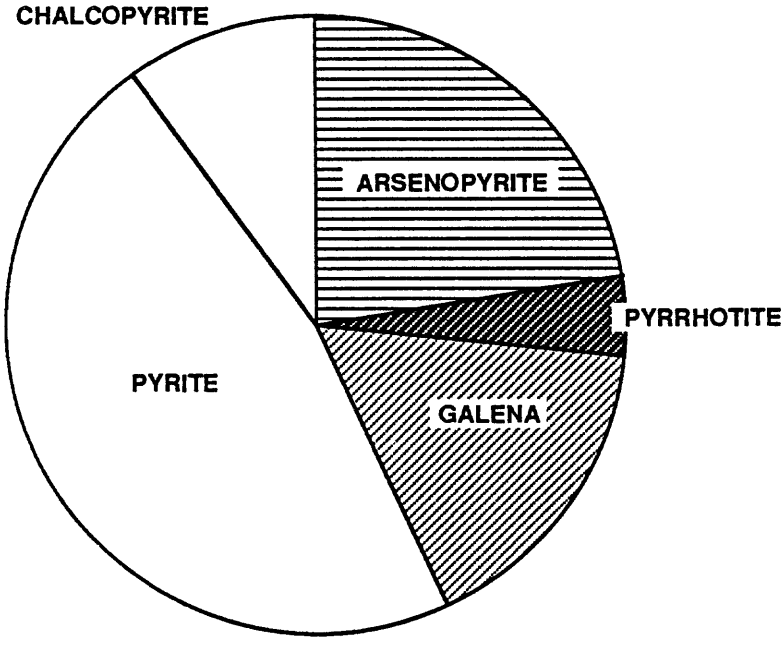

Figure 17. Minerals associated with sphalerite in low-sulfide Au-quartz veins. Restricted to minerals in ranks one to three. Sphalerite reported in 24 percent of deposits among first three ranks.

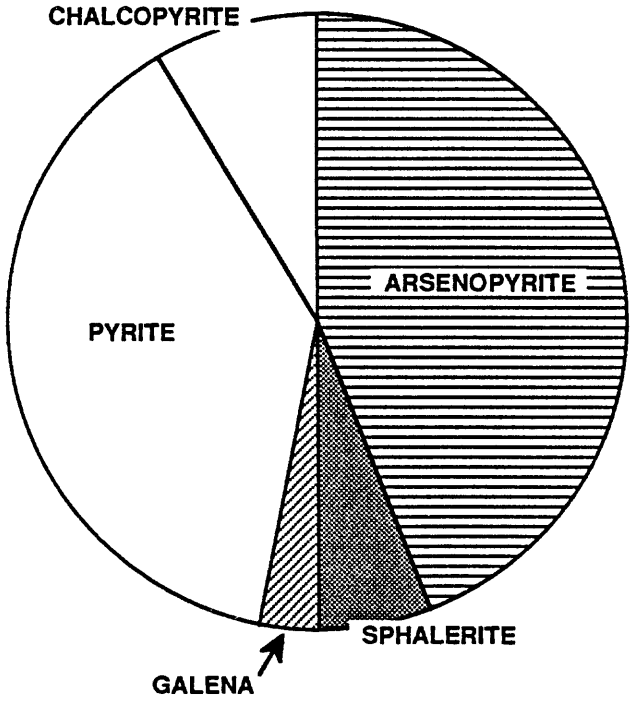

Figure 18. Minerals associated with pyrrhotite in low-sulfide Au-quartz veins. Restricted to minerals in ranks one to three. Pyrrhotite reported in 14 percent of deposits among first three ranks.

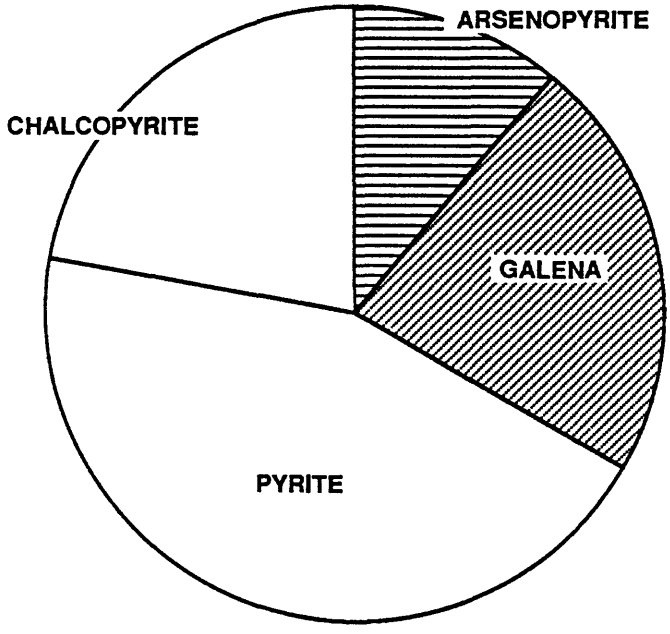

Figure 19. Minerals associated with stibnite in low-sulfide Au-quartz veins. Restricted to minerals in ranks one to three. Stibnite reported in 7 percent of deposits among first three ranks.